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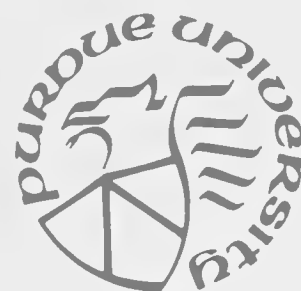
# JOINT HIGHWAY RESEARCH PROJECT

JHRP-75-29


HISTORY OF THE INTERSTATE  
SYSTEM IN INDIANA

VOLUME IV - COST, FUNDING  
AND GENERAL BENEFITS

David A. Ripple



PURDUE UNIVERSITY  
INDIANA STATE HIGHWAY COMMISSION



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## Final Report

### HISTORY OF THE INTERSTATE SYSTEM IN INDIANA

TO: J. F. McLaughlin, Director  
Joint Highway Research Project  
December 1, 1975  
Project: C-36-64H

FROM: H. L. Michael, Associate Director  
Joint Highway Research Project  
File: 3-5-8

Attached is the Final Report titled "History of the Interstate System in Indiana", authored by David A. Ripple a Graduate Instructor on our staff while conducting the research and authoring the Report. Professor W. L. Grecco, formerly of our staff, directed the study during its initial year and Professor Michael supervised it during the latter years and handled the lengthy review process. The Report has been reviewed by several personnel of the ISHC, including Mr. Walter Frick, and changes suggested by them have generally been made and are sincerely appreciated.

The History covers the period from the late 1930's through 1972. The Interstate System was not yet complete in 1972 and the period after 1972 is not reported herein. Perhaps it will be at a later date after the System is completed.

The Report is voluminous and therefore is issued in four (4) volumes as follows:

- Volume I - Development of the National Program  
(Chapters I thru IV)
- Volume II - Evolution of Policies and Standards  
(Chapter V)
- Volume III - Route History  
(Chapter VI)
- Volume IV - Cost, Funding and General Benefits  
(Chapters VII and VIII)

Another volume as an Appendix which is a detailed Table titled "Interstate Highway Construction Record" is also in preparation and will be issued at a later date. A brief summary of the entire history is also in preparation.



Each of the Volumes covers a part of the History and may be used separately as each is complete for the topic or topics covered. The entire set of four volumes provides an excellent in-depth reference document of the Interstate System history in Indiana and should be extremely valuable for many purposes. To my knowledge Indiana is the first state to prepare such a factual detailed history of the Interstate System.

Sincerely,

*Harold L. Michael*

Harold L. Michael  
Associate Director

HLM:ms

cc: W. L. Dolch	M. L. Hayes	C. F. Scholer
R. L. Eskew	G. A. Leonards	M. B. Scott
G. D. Gibson	C. W. Lovell	K. C. Sinha
W. H. Goetz	R. F. Marsh	L. E. Wood
M. J. Gutzwiller	R. D. Miles	E. J. Yoder
G. K. Hallock	P. L. Owens	S. R. Yoder
D. E. Hancher	G. T. Satterly	



Final Report  
HISTORY OF THE INTERSTATE HIGHWAY SYSTEM IN INDIANA  
Volume IV (Chapters VII and VIII)  
COST, FUNDING AND GENERAL BENEFITS

by

David Alan Ripple  
Graduate Instructor in Research

Joint Highway Research Project

Project No.: C-36-64H

File No.: 3-5-8

Joint Highway Research Project  
Engineering Experiment Station  
Purdue University

In Cooperation With

Indiana State Highway Commission

The contents of this Report reflect the views of the author who is responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Indiana State Highway Commission or of the Joint Highway Research Project of Purdue University.

Purdue University  
West Lafayette, Indiana  
December, 1975





This dissertation is dedicated to those who conceived an interregional system of superhighways and to those who brought this concept into reality.



## ACKNOWLEDGEMENTS

With a deep sense of gratitude, the author wishes to personally thank Dr. William L. Grecco, Head of the Department of Civil Engineering at the University of Tennessee, for his counsel in developing the work program for this study and in implementing the first critical phases of the study. He has kindled my continued interest in urban and transportation planning and our association was an unforgettable intellectual experience.

The ultimate task of reviewing this report fell to Professor Harold L. Michael, Head of the Urban and Transportation Engineering Department at Purdue University, who succeeded Dr. Grecco as major professor. During the compiling of the report, his guidance and constructive criticism were invaluable.

The participation of Dr. Gilbert T. Satterly, Jr., of the Urban and Transportation Engineering Department, Dr. Harvey H. Marshall, Jr., of the Department of Sociology, and Dr. David H. Root of the Department of Statistics in the review and critique of this research was most welcome.

The open cooperation of the Indiana State Highway Commission personnel in providing access to their files, in compiling data for portions of the report and in supplying information in extensive interviews was responsible to a large degree for the success of the research. The cooperation of the Indiana Division Office of the Federal Highway Administration and many other transportation related agencies throughout Indiana in providing additional information was invaluable.



The author also owes a debt of gratitude to the secretaries of the Joint Highway Research Project office who typed this report, the draft persons who constructed the illustrations, and his fellow students who offered encouragement and support for this research.

Not least, I acknowledge the unrepayable debt to Melinda, my wife, for reviewing the rough drafts of this report as well as providing continual moral support.



## TABLE OF CONTENTS

	Page
LIST OF TABLES. . . . .	xvi
LIST OF FIGURES . . . . .	xix
ABSTRACT. . . . .	xxvii
CHAPTER I - INTRODUCTION. . . . .	1
CHAPTER II - THE NEED FOR AN INTERSTATE HIGHWAY SYSTEM AND INTERSTATE SYSTEM GOALS . . . . .	7
The Traditional Role of Transportation . . . . .	7
Early Governmental Involvement in Transportation. . . . .	9
Governmental Involvement in Highway Transportation on a Continuous Basis. . . . .	12
The Need Arises. . . . .	13
Goals. . . . .	14
Notes. . . . .	17
CHAPTER III - DEVELOPING A PROGRAM. . . . .	18
Toll Roads and Free Roads. . . . .	19
The Future of Indiana Roads. . . . .	23
Highway Needs for National Defense . . . . .	24
Planning the Interregional Highway System. . . . .	25
Interregional Highways . . . . .	27
Background for Study. . . . .	29
The Recommended Interregional Highway System . . . . .	31
Selection of Routes for the Inter- regional System. . . . .	35
Route Selection in Urban Areas. . . . .	40
Access Limitation . . . . .	41
Acquisition of Rights-of-Way. . . . .	42
Design of the Interregional System. . . . .	43
Constructing the Interregional System . . . . .	44
Financing the Interregional System. . . . .	45
Conclusion. . . . .	50





## TABLE OF CONTENTS (Continued)

	Page
The First Completion Cost Estimate. . . . .	51
Status of Interstate Improvement . . . . .	53
Correcting the Deficiencies. . . . .	56
Retrospect . . . . .	58
More Studies. . . . .	59
The National Highway Study . . . . .	59
DuPont's Informal Advisory Committee . . . . .	60
Needs of the Highways from 1955 to 1984 . . . . .	61
Highway Inadequacy . . . . .	62
Highway Improvement Estimate . . . . .	64
Construction Needs for the First Ten Years. . . . .	65
Construction Needs for the Next Twenty Years . . . . .	68
Construction Expenditure. . . . .	69
Maintenance and Administrative Needs and Expenditures . . . . .	71
Total Needs and Expenditures. . . . .	72
Highway Improvement Financing. . . . .	72
Conclusion . . . . .	75
The National Highway Program Study. . . . .	76
Program Recommendations. . . . .	78
Inadequacy of the Present Highway Network. . . . .	80
Cost of Modernization. . . . .	81
Financing the National Highway Program . . . . .	84
Implementation of the National Highway Program . . . . .	90
Report Conclusion. . . . .	91
Notes . . . . .	92
CHAPTER IV - THE PROGRAM AND ITS EVOLUTION . . . . .	94
Construction Time . . . . .	95
Manpower. . . . .	97
Material and Equipment. . . . .	98
Financing in General. . . . .	98
Federal Highway Trust Fund . . . . .	98
Highway Acts . . . . .	100
Apportionment of Funds. . . . .	101
Federal Share . . . . .	104
Use of Funds. . . . .	104
Interstate Use Restrictions . . . . .	105
Administrative Policy . . . . .	106
Right-of-Way Acquisition. . . . .	107
Inclusion of Toll Roads in the Interstate System. . . . .	108



## TABLE OF CONTENTS (Continued)

	Page
Reimbursement for Completed	
Interstate Sections. . . . .	109
Other Provisions. . . . .	110
Indiana Motor Vehicle Fund . . . . .	111
Notes . . . . .	113
CHAPTER V - EVOLUTION OF POLICIES AND STANDARDS. . . . .	114
Planning. . . . .	116
Criteria for Corridor Selection and	
Mileage Designation . . . . .	116
Route Location Procedure . . . . .	122
Location Criteria . . . . .	122
Indiana's Route Location Process. . . . .	127
Evolution of the Route Alternative	
Evaluation Process. . . . .	132
Criteria Used to Evaluate Alternatives. . . . .	132
Evaluation of Economic Analysis	
Techniques . . . . .	134
Evolution of the Decision-Making Process . . . . .	138
Overview of the Decision Making	
Process. . . . .	138
The Decision-Making Process in Indiana. . . . .	140
Evolution of the Review Process. . . . .	141
Public Participation and the Public	
Hearing Process. . . . .	144
Notice Offering Public Hearing . . . . .	147
Notice of Public Hearing . . . . .	149
Conduct of Hearing . . . . .	151
Action on Transcript . . . . .	154
Notice of Request for Approval . . . . .	155
Notice of Project Approval . . . . .	156
Other Changes in the Review Process . . . . .	157
A-95 Review - Project Notification	
and Review System. . . . .	161
Design. . . . .	167
Evolution of Design Standards. . . . .	167
Influence of Forerunners on	
Interstate Design. . . . .	174
Interstate Design Standards . . . . .	176
Change in the Design Year . . . . .	177
Minimum Four-Lane Requirement . . . . .	178
Evolution of Pavement Design. . . . .	179
Safety in Design. . . . .	183
Safety Provisions for Roadside	
Features and Appertenances. . . . .	184



## TABLE OF CONTENTS (Continued)

	Page
Evolution of the Interstate System Cross Section. . . . .	188
Evolution of Bridge Design . . . . .	196
Traffic Control and Protection Devices . . . . .	210
Considerations in Grade Treatment . . . . .	211
Evaluation of Design Alternatives . . . . .	213
Evolution of the Interchange . . . . .	214
Interchange Location and Spacing. . . . .	215
External Factors . . . . .	216
Internal Factors . . . . .	219
Special Considerations . . . . .	220
Interchange Justification. . . . .	224
Selection of Interchange Type . . . . .	227
Interchange Design and Special Considerations . . . . .	236
Other Design Features. . . . .	238
Evolution of the Separation . . . . .	238
Evolution of Road Closure . . . . .	241
Evolution of the Frontage Road. . . . .	242
Utilization of Collector-Distributor Roads. . . . .	243
Federal and State Policy As It Affects Design. . . . .	244
Policies on Grade Separated Crossroads Without Ramps. . . . .	244
Policies on Interchanges. . . . .	255
Policies on Other Roads . . . . .	257
Policies on Additional Through Lane . . . . .	260
Policies on Safety Improvements . . . . .	262
Policy on Abandonment and Revision of Plans . . . . .	266
Federal Aid Financing on Completed Sections of the Interstate System. . . . .	268
Flexibility in Design . . . . .	269
The Role of Traffic Engineering in Interstate Design. . . . .	270
Other Functional Areas. . . . .	272
New Concepts . . . . .	272
Joint Development . . . . .	273
Multiple Use Development. . . . .	275
Environmental Emphasis. . . . .	277
The Environmental Impact Statement and the 4(f) Statement Processes . . . . .	283
Content of Environmental Impact Statement . . . . .	288



## TABLE OF CONTENTS (Continued)

	Page
The Environmental Impact Statement Process in Indiana . . . . .	293
Roadside Development . . . . .	294
Evolution of Landscape Design . . . . .	294
Landscaping and Scenic Enhancement. . . . .	296
Safety Rest Parks . . . . .	299
Scenic Overlooks. . . . .	302
Scenic Strips . . . . .	302
Control of Outdoor Advertising. . . . .	303
Control of Junkyards. . . . .	307
Land Acquisition . . . . .	308
Evolution of the Land Acquisition Process. . . . .	309
The Practice of Land Acquisition. . . . .	312
Access Control. . . . .	315
Advance Land Acquisition. . . . .	316
Overview of Advanced Land Acquisition . . . . .	317
Alternatives to Advanced Land Acquisition . . . . .	320
Excess Condemnation . . . . .	323
Relocation . . . . .	325
General Relocation Policies and Procedures . . . . .	326
Evolution of Relocation Process . . . . .	333
Compensation for Losses . . . . .	334
Losses Due to Direct Displacement. . . . .	335
Losses Due to Uncertainty or Delay . . . . .	340
Indirect Losses in Surrounding Areas . . . . .	341
Cooperation with Other Agencies . . . . .	342
Utilities Relocation . . . . .	342
Utility Relocation Procedures . . . . .	343
Utility Accommodation Policies. . . . .	345
Specifications, Contracts and Bidding. . . . .	347
Specifications. . . . .	349
Contract Proposal . . . . .	350
Notice to Contractors. . . . .	350
Special Provisions . . . . .	350
Federal Provisions . . . . .	351
Proposal . . . . .	352
Bid Schedule . . . . .	353
Bid Guarantee. . . . .	353
Contract . . . . .	354
Bond . . . . .	354





## TABLE OF CONTENTS (Continued)

	Page
Bidding . . . . .	354
Construction . . . . .	355
Construction Policies and Procedures.	355
Evolution of Construction Technology.	357
Maintenance . . . . .	358
Interstate System Construction Priorities . . .	360
Notes . . . . .	362
CHAPTER VI - ROUTE HISTORY . . . . .	371
Prelude . . . . .	372
Early Highway Acts . . . . .	372
Designation of Interstate Mileage. . . . .	375
A Time of Study and Little Construction. .	379
The Interstate Program . . . . .	382
Formulation of the Indiana Interstate	
System. . . . .	384
Indianapolis Metropolitan Area Interstates. . .	385
Background of the Indianapolis Interstates	387
Interstate Route 465 . . . . .	390
East Leg. . . . .	392
Relocation from Shadeland	
Avenue. . . . .	392
Comparison of the Revised Route	
with a Route Farther East .	394
Woolen's Gardens . . . . .	396
Fall Creek Road and Fall	
Creek Parkway . . . . .	399
Interchange of Interstate 465	
and Interstate 70 . . . . .	400
North Leg . . . . .	401
Lochner Location Study . . . . .	402
Continued Opposition . . . . .	408
Design Changes . . . . .	411
West Leg. . . . .	413
South Leg . . . . .	414
Interchanges . . . . .	416
Lake Shore Golf Course . . . . .	417
Interstate Routes Inside Interstate 465. .	417
Location Studies. . . . .	418
Inner Belt . . . . .	418
West Route . . . . .	422
South Route. . . . .	427
East Route . . . . .	432
Northwest Route. . . . .	433
Additions and Alternatives to the	
Recommended Inner City Inter-	
state Freeway System . . . . .	436
North Freeway. . . . .	440
Northeast Freeway. . . . .	440
Modified Plan. . . . .	446



## TABLE OF CONTENTS (Continued)

	Page
Interstate Type West Leg for the Inner Belt. . . . .	449
Supplemental Freeways. . . . .	452
Design of the Inner City Interstate	
Freeway System . . . . .	459
Depressed Versus Elevated. . . . .	459
Inner Belt Design. . . . .	461
North Leg Inner Belt Design. . . . .	463
Northeast Inner Belt Master Interchange . . . . .	467
East Leg Inner Belt Design . . . . .	468
Southeast Inner Belt Master Interchange . . . . .	471
South Leg Inner Belt Design. . . . .	472
West Leg Inner Belt Design . . . . .	473
West Route Design. . . . .	473
South Route Design . . . . .	475
East Route Design. . . . .	476
Northwest Route Design . . . . .	478
Public Interest . . . . .	479
Public Hearings. . . . .	479
Continued Opposition . . . . .	485
Indianapolis Metropolitan Area Interstates	
Outside Interstate 465. . . . .	488
Southport Road Controversy . . . . .	488
Separation of 82nd and 86th Streets on Interstate 65 North . . . . .	494
86th Street Separation on Interstate 69 . . . . .	496
Bridgeport Road Separation on Interstate 70 West . . . . .	496
Interstate 70 East in Marion County . . . . .	497
Interstate 74 Interchange at Clermont . . . . .	498
Interstate Route 64 . . . . .	500
Shifting Corridors . . . . .	502
Original Location Proponents. . . . .	503
Southern Route Proponents . . . . .	504
Comparison of Route Alternatives. . . . .	505
Population Density . . . . .	505
Population and Economic Growth . . . . .	507
Service to Evansville and Crane Naval Depot . . . . .	507
User Benefits. . . . .	508
Construction Cost. . . . .	509
Resolution of Events. . . . .	509
Southern Route Location Studies . . . . .	511



## TABLE OF CONTENTS (Continued)

	Page
Lynville Location Study. . . . .	512
Alternative Location Study from	
SR 57 to SR 45 . . . . .	512
Alternatives in the SR 61 Inter-	
change Area. . . . .	516
Alternatives near Warrick County	
Road 600 West. . . . .	518
Location Alternatives Between State Road	
145 and State Road 64 . . . . .	518
Location of Interstate 64 in New Albany. .	521
Early Location Studies. . . . .	521
Reevaluation of the New Albany	
Location . . . . .	525
Additional Interchanges. . . . .	528
Interstate Route 65 . . . . .	529
Jeffersonville . . . . .	530
Interstate 65 Location Studies from	
Jeffersonville to Indianapolis. . . .	533
Alternatives from Jeffersonville to	
Seymour. . . . .	533
Alternatives from Seymour to	
Indianapolis . . . . .	534
Interstate 65 South: Special Requests . .	542
Market Street Exit Ramps. . . . .	542
Memphis Interchange . . . . .	547
Underwood Interchange . . . . .	548
Jackson County. . . . .	549
State Road 44 Interchange . . . . .	551
Interchange 65 Location Studies from	
Indianapolis to Gary. . . . .	553
Swanington to Gary Location Study . .	553
Lafayette . . . . .	554
Wildcat Creek Reservoir . . . . .	566
Interstate 65 North: Special Requests . .	571
Directional Sign to Whitestown. . . .	571
Tippecanoe County . . . . .	572
Clinton County. . . . .	574
Jasper County . . . . .	574
Indian Gardens. . . . .	575
Crownpoint Interchange. . . . .	578
Additional Service in Gary. . . . .	579
Interstate Route 69 . . . . .	582
Shift of Corridor: West of Anderson to	
East of Anderson. . . . .	582
Shift of Interstate 69 from a Junction	
with Interstate 70 to a Junction	
with Interstate 465 . . . . .	588



## TABLE OF CONTENTS (Continued)

	Page
Huntington and the Huntington Reservoir. . . . .	594
Fort Wayne Relocation. . . . .	598
Extension of Interstate 69 . . . . .	599
Special Cases Involving Access Treatment . . . . .	607
Allen County. . . . .	607
DeKalb County . . . . .	612
Delaware County . . . . .	615
Grant County. . . . .	615
Hamilton County . . . . .	616
Huntington County . . . . .	618
Steuben County. . . . .	619
Interstate Route 70 . . . . .	621
Interstate 70 East . . . . .	621
Richmond Bypass . . . . .	621
Location of Interstate 70 in Central Indiana. . . . .	623
Special Cases and Route Service . . . . .	627
Henry County . . . . .	629
Wayne County . . . . .	630
Interstate 70 West . . . . .	632
Terre Haute Bypass. . . . .	632
Strip Mining Conflicts. . . . .	636
Interstate 70 in Central Indiana. . . . .	639
Special Cases and Route Service . . . . .	639
Clay County. . . . .	639
Putnam County. . . . .	641
Vigo County. . . . .	644
Interstate Route 74 . . . . .	648
Interstate 74 East . . . . .	648
Location Studies. . . . .	648
Special Cases . . . . .	649
Dearborn County. . . . .	650
Decatur County . . . . .	650
Shelby County. . . . .	651
Interstate 74 West . . . . .	652
Location Studies. . . . .	652
Special Cases . . . . .	658
Hendricks County . . . . .	658
Fountain County. . . . .	659
Montgomery County. . . . .	662
Vermillion County. . . . .	664
Tri-State Highway . . . . .	664
Lake County. . . . .	667
Grand Boulevard Separation. . . . .	667
Central Avenue Interchange. . . . .	671
SR 51 Interchange . . . . .	671
Commitments by Gary . . . . .	672





## TABLE OF CONTENTS (Continued)

## Page

Porter County. . . . .	673
Bethlehem Steel . . . . .	673
Alternate Location South of Indiana	
Toll Road. . . . .	676
Samuelson Road Separation . . . . .	676
Separation Requests . . . . .	681
SR 149 Interchange Request. . . . .	684
Chesterton. . . . .	684
LaPorte County . . . . .	687
Wagner Road Interchange . . . . .	687
Grade Separation Requests . . . . .	689
Additional Traffic Lanes . . . . .	691
Indiana East-West Toll Road . . . . .	693
Historical Background. . . . .	693
Location Studies . . . . .	694
Status . . . . .	697
Interstate Route 265. . . . .	697
Location Studies . . . . .	698
Route Service. . . . .	701
SR 111 Interchange. . . . .	701
Extension of Interstate 265 . . . . .	702
Louisville Transportation Study . . . . .	703
Interstate Route 275. . . . .	703
Location Studies . . . . .	704
Route Service. . . . .	712
Interstate System Additions in 1968 . . . . .	712
Request for Additions. . . . .	714
Northeast Freeway in Indianapolis . . . . .	715
Interstate 63 . . . . .	716
Interstate 294 Extension. . . . .	718
Interstate 164. . . . .	720
Interstate 465 West Leg Extension . . . . .	724
Notes . . . . .	725

## CHAPTER VII - PROGRAM REVIEW . . . . . 732

Inter-Governmental Cooperation. . . . .	732
Construction Progress . . . . .	735
Early Years. . . . .	735
Urban Bypasses and Critical Gaps . . . . .	738
System Extension . . . . .	742
Completing the System. . . . .	748
Costs . . . . .	754
Interstate Cost Estimate Studies . . . . .	754
1958 Cost Estimate. . . . .	757
1961 Cost Estimate. . . . .	757
1965 Cost Estimate. . . . .	761
1968 Cost Estimate. . . . .	762
1970 Cost Estimate. . . . .	762
1972 Cost Estimate. . . . .	764
Additional Cost Estimate. . . . .	764



## TABLE OF CONTENTS (Continued)

	Page
Evolution of Costs . . . . .	765
Analysis of Increase from 1949 to 1955 . . . . .	765
Analysis of Increase from 1955 to 1958 . . . . .	768
Cost Analysis from 1958 to 1961 . . . . .	769
Analysis of Increase from 1961 to 1965 . . . . .	770
Analysis of Increase from 1965 to 1968 . . . . .	773
Analysis of Increase from 1968 to 1970 . . . . .	776
Analysis of Increase from 1970 to 1972 . . . . .	778
Future Increases in the Total Cost of the System. . . . .	781
Actual Costs . . . . .	782
Funding . . . . .	786
Authorizations and Apportionments. . . . .	786
Federal Highway Act of 1958 . . . . .	788
Federal Highway Act of 1959 . . . . .	788
Federal Highway Act of 1961 . . . . .	791
Federal Highway Act of 1965 . . . . .	792
Federal Highway Act of 1966 . . . . .	792
Federal Highway Act of 1968 . . . . .	792
Federal Highway Act of 1970 . . . . .	793
Future Legislation. . . . .	793
Utilization of Funds . . . . .	794
Interstate Work Load. . . . .	807
Notes . . . . .	812
CHAPTER VIII - GENERAL BENEFITS. . . . .	814
Benefits. . . . .	814
User Benefits. . . . .	815
Community Benefits . . . . .	816
Effect on Other Highway Programs. . . . .	825
The Second Time Around. . . . .	826
Notes . . . . .	830
BIBLIOGRAPHY . . . . .	831
General References. . . . .	831
Location Studies and Reports. . . . .	843
APPENDIX . . . . .	851



## LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Estimated Urban, Rural, and Total Mileage, Total Rural Vehicle Mileage and Average Daily Traffic on Rural Sections Studied, Including the Recommended System . . . . .	37
2	Classification of Public Highway Expenditures . . . . .	48
3	Inventory of Interstate Mileage Type of Pavement and Class of Area . . . . .	55
4	Inventory of Interstate Mileage, Surface Width by Class of Area and Type of Facility . . . . .	55
5	1955-64 National Construction Needs. . . . .	66
6	1955-64 Indiana Construction Needs . . . . .	66
7	Proposed 10-Year National Highway Program Financing. . . . .	85
8	Financial Plan for Highway Program . . . . .	89
9	Interstate Cross Section Characteristics. . . . .	191
10	Interchange and Separation Spacing . . . . .	223
11	Interchange Classification . . . . .	234
12	Interstate 275: Cost Comparison of Alternatives . . . . .	708
13	Interstate Mileage Designated. . . . .	758
14	Funds Required to Complete Interstate System . . . . .	759



## LIST OF TABLES (Continued)

<u>Table</u>		<u>Page</u>
15	Estimate of Cost of Completing the Interstate System in Indiana by Route. . . .	760
16	Estimated Total Cost of the Interstate System for Nation. . . . .	766
17	Estimated Total Cost of the Interstate System in Indiana. . . . .	767
18	Cost Analysis of Increase of Interstate Cost for Nation. . . . .	771
19	1965 Interstate Cost Estimate: Cost Analysis of Increase in Cost Over 1961 Estimate . . . . .	772
20	1968 Interstate Cost Estimate: Cost Analysis of Increase in Cost Over 1965 Estimate . . . . .	774
21	1970 Interstate Cost Estimate: Cost Analysis of Increase in Cost Over 1968 Estimate . . . . .	777
22	1972 Interstate Cost Estimate: Cost Analysis of Increase in Cost Over 1970 Estimate . . . . .	780
23	Expenditures in Indiana. . . . .	784
24	Costs of Indiana Interstate Routes . . . . .	785
25	Interstate Authorizations. . . . .	787
26	Status of Financing Federal Share of Cost to Complete the Interstate System. . . . .	789
27	Federal Aid Highway Apportionments for Nation . . . . .	795
28	Interstate Funds Apportioned to the Nation .	796
29	Interstate Funds Apportion to the State of Indiana by Law. . . . .	799
30	Federal Highway Program Financing in Indiana. . . . .	801





## LIST OF TABLES (Continued)

Table		Page
31	Status of Interstate Funds in Indiana. . .	804
32	Estimate of Funds Required to Complete the Interstate System Based on the 1972 Interstate Cost Estimate . . . . .	805
33	Estimate of Funds Required to Complete the Interstate System Based on the 1974 Interstate Cost Estimate . . . . .	805
34	Total Contracts Let and Awarded. . . . .	810
35	Average Number of Employees in the Indiana State Highway Commission . . . . .	811
36	Relocation Statistics for Interstate . . .	820
37	Analysis of Relocation Assistance and Payments for Interstate System in Indiana from October 1, 1965 to September 30, 1968 . . . . .	821
38	Analysis of Relocation Assistance for Interstate System in Indiana From October 1, 1968 to June 30, 1973 . . . . .	822
39	Analysis of Relocation Payments for Interstate System in Indiana From October 1, 1968 to June 30, 1973 . . . . .	822
40	Status of Improvement of Interstate Highways in Indiana. . . . .	851
41	Mileage Open to Traffic. . . . .	874
42	Summary of Interstate Route Mileage. . . .	892



## LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
1	Major Highways in Indiana Prior to 1850. . . .	11
2	The Transcontinental Toll Road System. . . .	21
3	Location of Existing Routes Selected as Approximating the Lines of a Proposed Interregional Highway System . . . . .	22
4	The 29,300-Mile System Investigated by the Public Roads Administration as an Interregional System in June 1941. . . . .	26
5	The General Location of Routes of the Recommended Interregional Highway System . .	32
6	Relation of the Recommended Interregional System to the Strategic Network of May 15, 1941 . . . . .	34
7	Graph Employed in Refining Committee's Selection of the Interregional System. . . .	37
8	The 36,000-Mile Interregional System . . . .	39
9	Rate of Expenditure Based on National Construction Needs from 1954 to 1984 . . . .	70
10	Rate of Expenditure Based on National Construction, Maintenance and Administration Needs from 1954 to 1984. . . . .	73
11	Rate of Expenditure Based on Interstate Construction, Maintenance and Administrative Needs from 1954 to 1984 . . .	74
12	National System of Interstate Highways: Rural Status of Improvement by 1965. . . . .	83



## LIST OF FIGURES (Continued)

<u>Figure</u>		<u>Page</u>
13	Project Notification and Review System. . .	163
14	Design Process. . . . .	169
15	Federal Participation in Cost of Eliminating Pavement Deficiencies . . . . .	182
16	Typical Interstate Cross Sections in Indiana . . . . .	190
17	Horizontal Clearances - All Interstate Overcrossing Structures Except Major Long Span Structures. . . . .	199
18	Horizontal Clearances - Major Long Span Structures Interstate System Overcrossings.	200
19	Horizontal Clearances Major Span Structures in Indiana . . . . .	201
20	Horizontal Clearances - Auxiliary Lanes Interstate System Overcrossings . . . . .	203
21	Guardrail Placement . . . . .	205
22	Guardrail-Bridgerail Transition . . . . .	206
23	Roadside Clearance to Bridge Supports . . .	209
24	Interchange Type Selection Process. . . . .	228
25	Limit of Federal Participation, . . . . .	246
26	Limit of Federal Participation. . . . .	247
27	Limit of Federal Participation. . . . .	247
28	Limit of Federal Participation. . . . .	248
29	Limit of Federal Participation. . . . .	248
30	Limit of Federal Participation. . . . .	249
31	Limit of Federal Participation. . . . .	249
32	Limit of Federal Participation for Cross- road Relocation . . . . .	251



## LIST OF FIGURES (Continued)

<u>Figure</u>		<u>Page</u>
33	Limit of Federal Participation for Crossroad Relocation. . . . .	251
34	Limit of Federal Participation. . . . .	252
35	Limit of Federal Participation from Interchange Ramps . . . . .	256
36	Federal Participation in Frontage Roads . .	258
37	Federal Participation in Frontage Roads . .	259
38	Environmental Impact Statement Process at the Location Stage. . . . .	287
39	Environmental Impact Statement Process at the Design Stage. . . . .	289
40	Safety Rest Parks . . . . .	300
41	National System of Interstate Highways Designated on August 2, 1947. . . . .	380
42	Proposed Interstate Routes in the Indianapolis Metropolitan Area in September of 1955 . . . . .	386
43	Interstate 465 - East Leg: Relocation from Shadeland Avenue . . . . .	395
44	Interstate 465 - East Leg: Comparison of Revised Location with Warren Civic Association Location. . . . .	397
45	Woolen's Gardens Area . . . . .	398
46	Interstate 465 - North Leg: Location Alternatives. . . . .	404
47	Interstate 465 - South Leg: Relocation of Southwest Corner . . . . .	415
48	General Corridors for Interstate Routes Inside Interstate 465 . . . . .	419
49	Interstate 70 - West Route: Original Location. . . . .	423





## LIST OF FIGURES (Continued)

<u>Figure</u>		<u>Page</u>
50	Alternative Locations for Interstate Routes Inside Interstate 465. . . . .	425
51	Interstate 70 - West Route: Revised Location and Alternatives . . . . .	426
52	Interstate 65 - South Route: Revised and State Avenue Locations. . . . .	430
53	Interstate 65 - South Route: Relocation and Alternatives. . . . .	431
54	Interstate 70 - East Route: Recommended Location. . . . .	434
55	Indianapolis Interstate Highway System Plan of 1957. . . . .	437
56	Indianapolis Interstate Highway System Plan of 1957 - Anticipated 1975 Traffic Volumes . . . . .	438
57	Final Location of the Indianapolis Interstate Freeways . . . . .	439
58	Central Business District Thoroughfare Plan of 1963. . . . .	441
59	Official Thoroughfare Plan for Marion County in 1962. . . . .	442
60	Recommended Central Business District Thoroughfare Plan in 1969 . . . . .	443
61	Recommended Thoroughfare Plan for 1985. . . . .	444
62	Proposed North Freeway and Northeast Freeway . . . . .	445
63	The Proposals fo Livable Indianapolis for Everyone and the Indianapolis Tax-payers Association. . . . .	448
64	Interstate Type West Leg for the Inner Belt Along the Proposed Harding Expressway. . . . .	451



## LIST OF FIGURES (Continued)

<u>Figure</u>		<u>Page</u>
65	Interstate Type West Leg for the Inner Belt Through the University Complex . . . . .	453
66	Supplemental Freeways for Central City: Alternative 1 - Route Through University Complex. . . . .	454
67	Supplemental Freeways for Central City: Alternative 2 - Modified Plan . . . . .	455
68	Supplemental Freeways for Central City: Alternative 3 - Proposed SR 37. . . . .	456
69	Supplemental Freeways for Central City: Alternative 4 - Proposed Interstate Freeway System. . . . .	457
70	Indianapolis Inner Belt Design in 1970. .	464
71	Interstate 70 - West Route: Alternative Locations Through Stout Field . . . . .	483
72	Interstate 65: Proposed Interchange Locations South of I-465 in Marion County. . . . .	489
73	Interstate 64: Economic Comparison of Route Alternatives . . . . .	506
74	Interstate 64: Alternative Locations in the Lynnville Area . . . . .	513
75	Interstate 64: Alternatives in the SR 61 Interchange Area and Near Warrick County Road 600 West . . . . .	517
76	Interstate 64 - Harrison County Planning Commission Alternative Location . . . . .	520
77	Interstate 64: The Three General Corridors for the Ohio River Crossing . .	522
78	Interstates 64 and 65: Alternative Ohio River Crossings. . . . .	526



## LIST OF FIGURES (Continued)

<u>Figure</u>		<u>Page</u>
79	Interstate 65: Alternatives from Seymour to Indianapolis . . . . .	535
80	Interstate 65: Jeffersonville. . . . .	544
81	Proposed Market Street Ramp . . . . .	545
82	Interstate 65: Jackson County. . . . .	550
83	Franklin Thoroughfare Plan. . . . .	552
84	Interstate 65: Swanington to Gary. . . . .	555
85	Interstate 65: From Lebanon to Fair Oaks. . . . .	558
86	Interstate 65: Location Alternatives and Proposed Future Land Use of Lafayette . .	560
87	Proposed Traffic Plan for Metropolitan Lafayette in 1961 . . . . .	561
88	Interstate 65: Alternative Locations in White and Jasper Counties. . . . .	564
89	Interstate 65: Alternative Locations in the Proposed Wildcat Reservoir Area. .	567
90	Interstate 65: Alternate Route Through Indian Gardens. . . . .	576
91	Interstate 65: Proposed Spur to U.S. 12- 20. . . . .	581
92	Interstate 69: Location East of Anderson. . . . .	584
93	Interstate 69: Alternative Locations from Pendleton to Fort Wayne. . . . .	585
94	Interstate 69: Alternative Locations from Indianapolis to Pendleton. . . . .	590
95	Interstate 69: Alternatives in the Huntington Reservoir Area . . . . .	597



## LIST OF FIGURES (Continued)

<u>Figure</u>		<u>Page</u>
96	Interstate 69: Allen County. . . . .	600
97	Interstate 69: Alternatives from Waterloo to the Indiana-Michigan State Line. . . . .	603
98	Interstate 69: Alternatives in the Lake Charles Area . . . . .	606
99	Interstate 69: Relocation at the Indiana-Michigan State Line . . . . .	608
100	Interstate 69: Fishers Area. . . . .	617
101	Interstate 70: Alternative Locations from Indianapolis to S.R. 1 . . . . .	625
102	Interstate 70: Additional Construction Costs as a Result of Alternate B. . . . .	628
103	Interstate 70: Alternative Locations for Terre Haute Bypass. . . . .	634
104	Interstate 70: Initial Relocation in Strip Mining Area . . . . .	637
105	Interstate 74: Alternatives from Covington to Indianapolis . . . . .	653
106	Tri-State: Location Alternatives . . . . .	674
107	Interstate 94: Access Alternatives to Chesterton . . . . .	686
108	Alternative Indiana Toll Road Routes. . . . .	695
109	Interstate 265: Location Alternatives. . . . .	699
110	Interstate 275: Alternatives . . . . .	705
111	Interstate 275: Locations Selected by Consultant . . . . .	707
112	Interstate 275: Final Location . . . . .	711
113	Interstate 275: Relocation West of Elizabethtown . . . . .	713





## LIST OF FIGURES (Continued)

<u>Figure</u>		<u>Page</u>
114	Interstate 69 Extension (Northeast Indianapolis Freeway) and I-465 Connector . . . . .	717
115	Interstate 64 Spur and Interstate 63: Traffic Assignments for 1990 . . . . .	719
116	Interstate 294 Extension. . . . .	721
117	Interstate 164. . . . .	723
118	Status of Improvement of Indiana Interstate System as of December 31, 1960. . . . .	739
119	Status of Improvement of Indiana Interstate System as of January 1, 1964. . . . .	743
120	Status of Improvement of Indiana Interstate System as of January 1, 1968 . . . . .	744
121	Status of Improvement of Indiana Interstate System as of December 31, 1971. . . . .	749
122	Status of Improvement of Indianapolis Interstates as of December 31, 1972 . . . . .	752
123	Status of Improvement of Indiana Interstate System as of December 31, 1972. . . . .	753
124	National Status of Improvement of Interstate System as of June 30, 1972. . . . .	755
125	Federal Aid Highway Program Financing . . . . .	797
126	Interstate Federal Aid Financing: Apportionments, Releases, Obligations, and Collections in Indiana on a Fiscal Year Basis. . . . .	802
127	Interstate Federal Aid Financing: Apportionments, Obligations, and Collections in Indiana on a Cumulative Basis . . . . .	803
128	Social and Housing Characteristics Inner Loop Freeway Plan . . . . .	824



## ABSTRACT

Ripple, David Alan. Ph.D., Purdue University, December, 1973.  
The History of the Interstate Highway System in Indiana.  
Major Professor: Harold L. Michael.

This work is a reconstruction of the planning, development and implementation of the Interstate Highway Program in Indiana as well as the Nation. The historical data for this record was gathered from Federal reports, documents, and legislation; Federal Highway Administration documents and interviews; Indiana State Highway Commission records and interviews; and other transportation related agency reports and interviews throughout Indiana.

Because of the voluminous amount of data involved, a combination of the stages of the systems analysis process and the highway planning and programming process was used in the reconstruction and presentation of the historical record.

The work begins with a description of the traditional role of transportation in the economy and the role of government in highway development. The need for an interregional super highway system and the goals and objectives of the Interstate Program are documented.

The development of the Interstate Program is traced from its conception in the late 1930's to the landmark legislation in 1956. The highway needs and programs developed by numerous studies during this period are described in detail.

The Interstate Program as set forth by the Federal Aid Highway Act of 1956 and its evolution are described in terms of policies on construction time, the utilization of manpower, the use of material and equipment, and financing. Under



financing, the report covers in great depth the apportionment of funds, federal participation, the use of funds, administrative policy, right-of-way acquisition, the inclusion of toll roads in the Interstate System and the reimbursement to States for completed Interstate sections.

All programs are subject to an evolution in policies and standards which ultimately affect the ultimate product. The research covers Interstate route location and selection, the route alternative evaluation process, the public hearing process, the A-95 Review Process (Project Notification and Review Process), the decision-making process and interagency cooperation, the environmental statement process and highway impact guidelines, policies on multiple use and joint development, the evolution of design standards with a heavy emphasis on safety in design, the evolution of interchange location and spacing, federal policies on fund participation, the evolution of landscape design including billboard and junkyard control, the evolution of the land acquisition process and the relocation process and other processes and policies.

Leaving the national scene, the work concentrates on designation of the Interstate Routes in Indiana, the formulation of the Indiana Interstate Program, and the historical development of the Indiana System. A description of studies and events leading to the development of each Interstate Route is covered in great detail.

Finally, the report assesses the relationship between revenues, expenditures, and cost completion estimates on the Interstate System. The progress of the Indiana System toward completion is documented on a fiscal year basis. A gross overview of the benefits and impacts of Interstate development on the citizens of Indiana concludes the presentation.



## CHAPTER VII

### PROGRAM REVIEW

This chapter is an overview of the progress of the Interstate System toward completion. Like other projects, the constraints in constructing the Interstate System were time, manpower, materials, and funding. Inter-governmental cooperation is the essential element that has manipulated these constraints to attain the goals of the Interstate Program. The basic relationship between costs and expenditures is developed to describe the effect of funding on Interstate construction progress.

#### Inter-Governmental Cooperation

The cooperation of Federal, State and local highway planning agencies insured that the construction of the Interstate System met the goals established for the System and was consistent with the planning objectives and programs of the nation and each locality. The Federal government established criteria for the selection of Interstate Routes to achieve the overall System goals of linking areas of population and industrial concentrations and serving strategic industry and military establishments. To insure the completion of the System on schedule and within the revenues allotted, the Federal government promulgated policies on Federal Aid Interstate fund participation in construction cost. Throughout the Interstate location, design and construction processes, the Federal Highway Administration reviewed the product to insure that it was the best for the money available.





Since the Interstate Program began, the Indiana State Highway Commission discussed location and design planning for each Interstate project with local officials. These meetings were to insure that the Interstate System provided adequate service to the area within the service corridor, that the highway grade separations and service roads would maintain adequate traffic service and circulation in the area, that the Interstate network properly interfaced with the existing highway network, and that the Interstate was compatible with local highway plans.

To obtain local concurrence in the final project proposal, the State encouraged the county commissioners and city officials to sign a limited access control resolution. The State could pursue construction without the resolution; however, the State felt that the passage of the resolution was important because the resolution signified local acceptance of the project and participation in the planning process.

In rural counties, the Indiana State Highway Commission dealt directly with the county commissioners. In counties with metropolitan areas, the Interstate projects were discussed within the framework of a county wide transportation coordinating committee composed of representatives from the Federal Highway Administration, Indiana State Highway Commission, county highway and planning agencies, and city highway and planning agencies. The coordinating committees provided the close cooperation needed to coordinate the construction of the Interstate System with planned and proposed improvements of the existing highway network.

In an effort to coordinate the Interstate System with local transportation planning, the Indiana State Highway Commission temporarily delayed some Interstate projects in the Calumet Area and the Indianapolis Metropolitan Area until the recommendations of ongoing urban transportation plans were compiled. Several modifications were made to the Interstate location and design to provide compatibility with the recommendations of urban transportation studies.



The public was given an opportunity to comment on the economic effects of every Interstate location. In addition and especially since January of 1969, the public has been encouraged to comment on the social and environmental effects of the location and the design of Interstate projects. The public hearings have resulted in numerous modifications to Interstate projects, many of which have been noted in earlier sections of this history.

The Federal Highway Administration and local officials have always reviewed Interstate project proposals. When an Interstate project might affect the programs or areas of responsibility of other State and Federal agencies, they were informed of the project proposal by the Indiana State Highway Commission. With the establishment of an areawide review agency in each metropolitan area, the project review process became quite formalized in 1966. The areawide review agency commented on the consistency of the Interstate projects in metropolitan areas with comprehensive planning.

Title IV of the Intergovernmental Cooperation Act of 1968 expanded the review process to all areas and led to the creation of the A-95 Review Process or the Project Notification and Review Process. Because numerous agencies were given the opportunity to review and to comment on Interstate projects, State, regional and metropolitan clearinghouses were designated to coordinate the review process. The clearinghouses and other agencies commented on the consistency of the proposed Interstate project with State and areawide development plans and objectives and on the extent to which the proposed project would implement these plans and objectives.

Beginning with the National Environmental Policy Act of 1969, the spectrum of environmental considerations in the review process has expanded. The A-95 Review Process has resulted in only minor modifications to Interstate design.



However, the A-95 Review Process was not in existence until the latter stages of the planning and design phases of the Interstate Program in Indiana or elsewhere.

### Construction Progress

The Federal Aid Highway Act of 1956 more than doubled the size of the highway construction program in Indiana. In monetary terms, the highway construction program by the early 1970's had expanded to seven times its size in the 1950's. Because the staffing and operations of the Indiana State Highway Department were based on the low level of funding prior to August of 1956, Indiana got off to a slow start on the Interstate Program in terms of miles completed and under construction. The States that were able to proceed most rapidly to Interstate construction were those that had completed construction plans for several Interstate projects in advance and were merely awaiting funds.

### Early Years

Although Indiana lacked a backlog of completed construction plans, the projects being developed at the time the Interstate Program began served as the basis for the initial Interstate construction in Indiana. Interstate 65 from Indianapolis to Lebanon was one of the first Interstate projects completed because the development of US 52 and US 41 as a four-lane divided highway from Indianapolis to Hammond was already underway. Indiana had improvement plans on file for the upgrading of US 52 and these were easily revised to Interstate standards.

As completion of Interstate 65 from Indianapolis to US 52 northwest of Lebanon created a four-lane facility from Indianapolis to Hammond\*, the development of Interstate 65 north of Lebanon was delayed on the basis of priority until

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\*Except for the Lafayette Bypass.



later in the Interstate Program. The Tri-State Highway was also being developed at the time the Interstate Program began and was extended from Burr Street to Broadway (SR 53) to serve Gary. Because of the inadequacy of the Wabash River bridge at Covington, Illinois and Indiana early in the Interstate Program pursued the completion of Interstate 74 across the Wabash River.

Due to a dire need for additional Ohio River crossings in the Louisville Metropolitan Area to relieve congestion on existing bridges, Indiana and Kentucky began construction on new bridges from Louisville to New Albany (Interstate 64) and from Louisville to Jeffersonville (Interstate 65). At the time the Interstate Program began, Indiana was in the process of developing US 31 as a four-lane divided highway from Indianapolis to Louisville and had improved US 31 in Jeffersonville and from Indianapolis to Columbus.

Because Indiana had previously completed plans for improvement of some of the remaining portions of US 31 and because remaining two-lane US 31 was a critically deficient facility from Jeffersonville to Columbus, the Indiana State Highway Department proceeded to correct the deficiency. The portion of Interstate 65 from Jeffersonville to US 50 near Seymour was placed under construction contract in 1958 and 1959. The need for a US 40 bypass around Richmond resulted in the rapid development of plans and in early work on the Richmond bypass (Interstate 70).

Prior to the Interstate Program, plans had also been developed to replace inadequate US 421 from Indianapolis to Shelbyville. Several twin structures had already been built for a new four-lane US 421. Consequently, Indiana began construction on Interstate 74 from Indianapolis to Shelbyville.

Because US 136 was a two-lane facility west of Indianapolis, the portion of Interstate 74 from Indianapolis to SR 39 was placed under construction contract in 1959. To extend





Interstate 65 from Royalton around the west side of Indianapolis, construction was begun early on the extension of Interstate 65 to Interstate 465 and on the West Leg of Interstate 465 from Interstate 65 to US 40.

Due to the fact that Indianapolis lacked a bypass on the west side, that Interstate 465 followed the alignment of the proposed SR 100 bypass on the west side and that Interstate 65 had been completed to Indianapolis, construction of the West Leg of Interstate 465 was a logical starting point on Interstate 465.

In terms of Interstate progress, Indiana accelerated its Interstate Program from forty-sixth position at the beginning of 1957 to a position among the top ten States by the end of 1960. Through a careful review of highway development underway in August of 1956, the Indiana State Highway Department singled out projects that could be incorporated into the Indiana Interstate Program with minor revisions.

Consequently, Indiana was able to complete several Interstate projects within the first two to three years. If Indiana had developed all its Interstate projects from the conception stage, the State would have needed six to seven years to complete the first projects. The utilization of the existing highway development program in 1956 for Interstate work where possible enabled Indiana to continue an orderly construction of highways and to gradually expand operations. By the time projects which were initially developed prior to 1957 were exhausted, Indiana had firmly established its Interstate construction program and had new projects ready for construction.

By December of 1960, Indiana had opened twenty-five miles of new Interstate to traffic, had completed construction on ninety miles, and had placed another eighty-eight miles under construction. Including the 6.4-mile portion of the



Tri-State Highway completed prior to 1957 and excluding the Indiana East-West Toll Road, Indiana had thirty-one miles of Interstate highway open to traffic in December of 1960. [Refer to Figure 118(p.739) and Tables 40 and 41 (pgs.851 and 874)].

### Urban Bypasses and Critical Gaps

By December of 1961, Indiana had eliminated many of the major deficiencies of the State highway network by completing those projects conceived before the Interstate Program began. Interstate 64 was completed across the Ohio River to Spring Street in New Albany relieving traffic on the old Kentucky-Indiana Toll Bridge. Interstate 65 was opened to US 50 near Seymour, leaving only a gap from Seymour to Columbus in the four-lane facility from Louisville to Indianapolis.

The Richmond bypass was completed to Centerville Road where through traffic returned to four-lane US 40 to continue to Indianapolis. At Covington, Interstate 74 was opened to a direct connection to US 136 near Layton. Interstate 74 was also opened from Indianapolis to southeast of Shelbyville and from Indianapolis west to SR 39. In September of 1961, Interstate 65 was opened from Royalton to Interstate 465, and the West Leg of Interstate 465 was completed from Interstate 65 to US 40.

Although Indiana began route location studies for the known Interstate Routes early in the Interstate Program, Indiana followed a general set of priorities in programming the routes for construction. Project priorities were generally based on the need to eliminate corridor deficiencies and to relieve congestion in metropolitan areas. Consequently, existing two-lane facilities coinciding with the Interstate were replaced before existing four-lane facilities.

Among the projects conceived after 1957, those which eliminated gaps in existing four-lane highways and provided urban bypasses were the first placed under construction. The



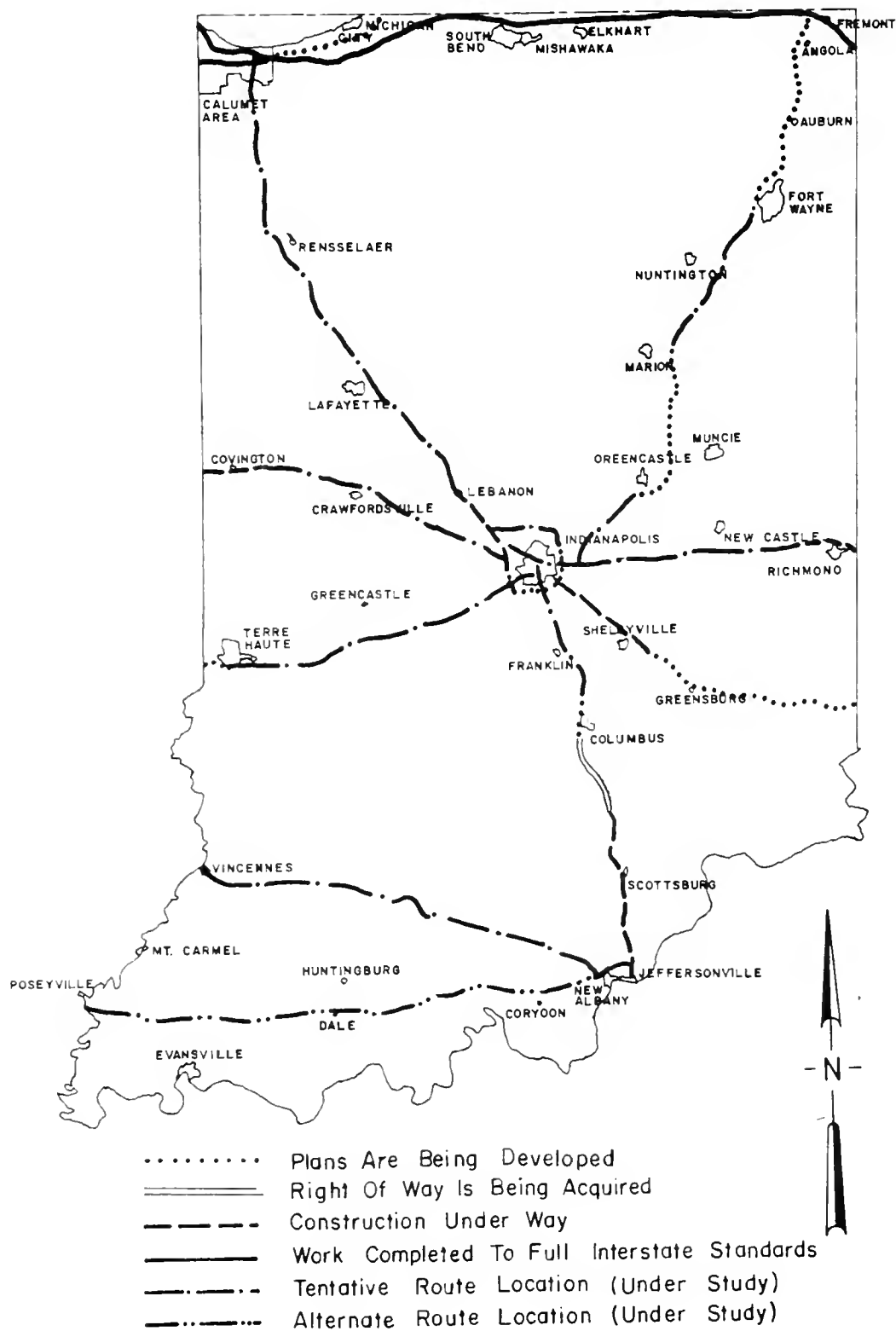


FIGURE 118. STATUS OF IMPROVEMENT OF INDIANA INTERSTATE SYSTEM AS OF DECEMBER 31, 1960



Indianapolis to Lebanon gap in a four-lane facility from Indianapolis to Hammond\* was closed in November of 1960 with the construction of a project conceived before 1957. On October 29, 1962, the gap in a four-lane facility from Louisville to Indianapolis was eliminated with the extension of Interstate 65 from US 50 near Seymour to US 31 near Taylorsville according to a project completely designed after 1957.

Except for US 24 - SR 37 from Huntington to Fort Wayne, there was no four-lane facility paralleling Interstate 69. As a result, Interstate 69 had a relatively high overall construction priority. Because of an acute need for a bypass of Fort Wayne, construction on Interstate 69 began in the Fort Wayne area in the summer of 1960. The Fort Wayne bypass was completed on October 23, 1962.

Because Interstate 70 paralleled existing four-lane US 40, Interstate 70 had a low construction priority except for the Richmond and Terre Haute bypasses, which were needed to relieve local congestion. The Richmond bypass was completed on September 17, 1961. Indiana had originally hoped to begin construction on the Terre Haute bypass in 1960; however, changes in interchange location and type and a change in the alignment of Interstate 70 through the strip mine area east of Terre Haute delayed construction until the latter half of 1964.

The concurrent construction of a four-lane connector from the temporary terminus of Interstate 70 east of Terre Haute to US 40 was also needed to insure the effectiveness of the bypass. On August 31, 1967, the Terre Haute bypass was opened from Illinois to SR 46 which was a four-lane connector to US40.

The construction on Interstate 74 was given precedence over other routes because this route replaced an existing two-lane facility along its entire corridor, construction

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\*Except for the Lafayette Bypass.





plans could be completed before most routes, and the terrain in the corridor lent itself to rapid construction enabling Indiana to more quickly utilize Interstate funds. Less time was needed to place Interstate 74 under construction than other routes because plans had been developed for the portion of the route from Indianapolis to Shelbyville before 1957, the design for the remainder of the route after 1957 was less complex than other routes, and the acquisition and clearance of right-of-way was less complicated than other routes.

Plans had been developed for a portion of Interstate 74 from Indianapolis to Cincinnati prior to 1957 and the route from Indianapolis to Cincinnati connected two major metropolitan areas. As a result, the route from Indianapolis to Cincinnati was completed on October 30, 1964, before the route west from Indianapolis.

Construction on the five-mile section of the Tri-State Highway from SR 51 to the Indiana Toll Road was begun in 1960; however, the complexity of coordination with local improvements delayed completion of the section until November of 1964.

To divert Interstate traffic around Indianapolis and to evenly distribute Interstate traffic to the urban area, Indiana pressed for extension of Interstate 465 around the south edge of Indianapolis to existing four-lane Shadeland Avenue (SR 100 bypass). The completion of Interstate 465 to Shadeland Avenue on October 15, 1964, provided a four-lane bypass facility from Interstate 65 northwest of Indianapolis to 56th Street northeast of Indianapolis.

As of January 1, 1964, Indiana had opened 264 miles (excluding the Indiana Toll Road) of the Interstate to traffic, had completed another seven miles, and had another 120 miles under construction. Including the Indiana Toll Road, thirty-eight percent of the 1115 miles of designated Interstate mileage in Indiana was open to traffic. This



percentage was only three percent below the National average. [Refer to Figure 119(p.743) and Table 40 (p.851)].

In 1963, overall route construction emphasis shifted from Interstate 74 to Interstate 69. Interstate 69 was constructed northward from SR 38 near Pendleton and northward from the Fort Wayne bypass. On June 27, 1966, the northward construction of Interstate 69 from Pendleton reached the Fort Wayne bypass. As of October 9, 1967, Interstate 69 was open to traffic from the Michigan-Indiana State Line southward to SR 38. [Refer to Table 41 (p.874 ) ].

In 1964, construction on Interstate 74 was resumed westward from SR 39 to the temporary connection with US 136 near Layton. On August 31, 1967, the last section of Interstate 74 was opened to traffic. Interstate 74 was the first Interstate route completed across Indiana.

The Indiana Interstate Program was in high gear in the mid-1960's. On January 1, 1968, the State had completed fifty-seven percent of the System excluding the Indiana Toll Road and had another sixteen percent of the System under construction. Indiana had opened fifty-eight percent of the System to traffic including the Indiana Toll Road. [Refer to Figure 120(p. 444 ) and Tables 40 and 41 (pgs.851 and 874)].

#### System Extension

This period was characterized by the replacement of parallel four-lane facilities temporarily carrying Interstate traffic and by the inward construction of the Indianapolis Interstate radials.

In the six years following the completion of the Richmond bypass in 1961, only one segment of Interstate 70 had been opened to traffic. This segment was the extension of Interstate 70 from the Centerville Road (west of Richmond) to relocated SR 1 on August 30, 1963. Because an existing four-lane facility paralleled Interstate 70 for its entire length,



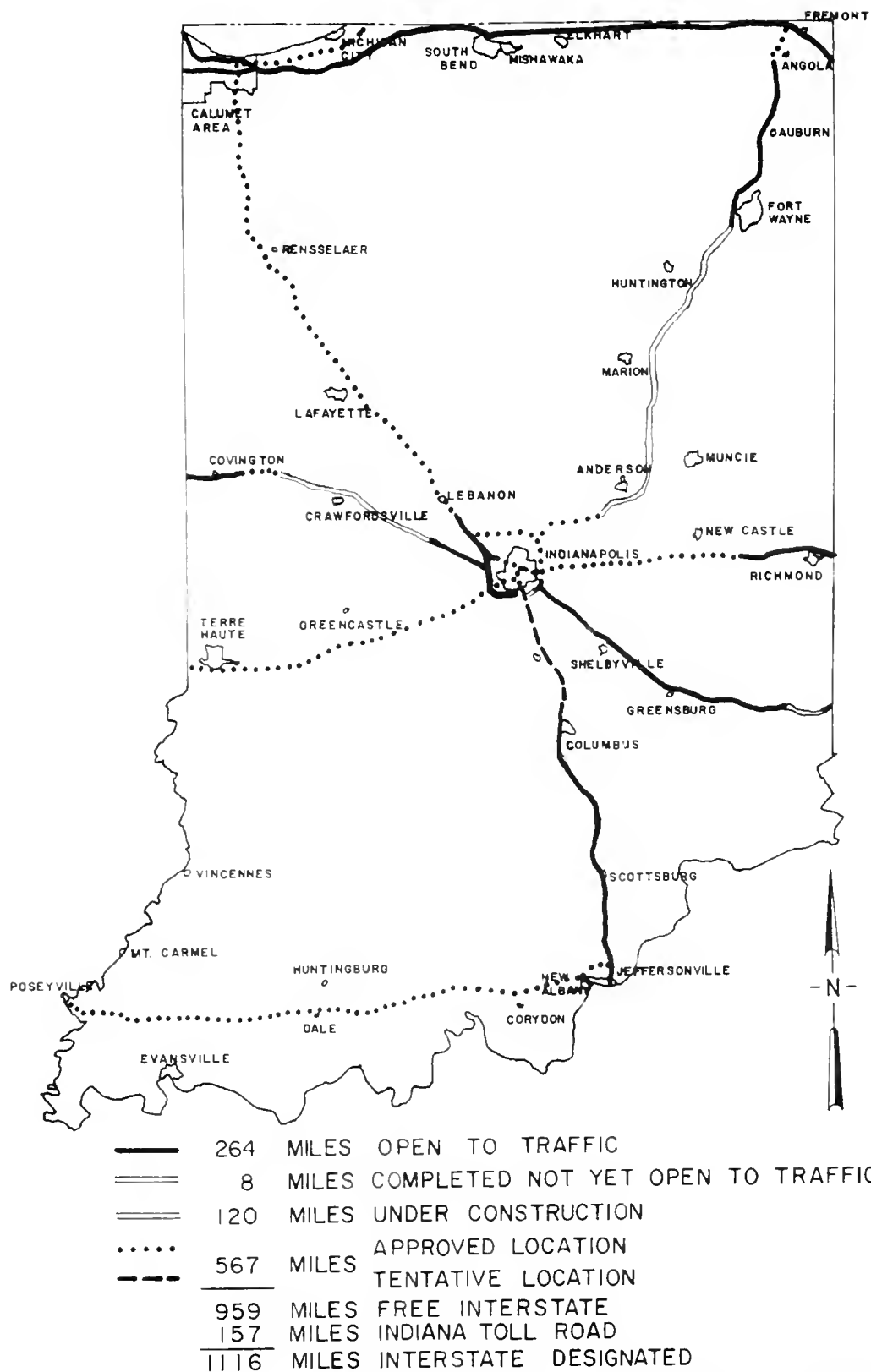


FIGURE 119. STATUS OF IMPROVEMENT OF INDIANA INTER-STATE SYSTEM AS OF JANUARY 1, 1964



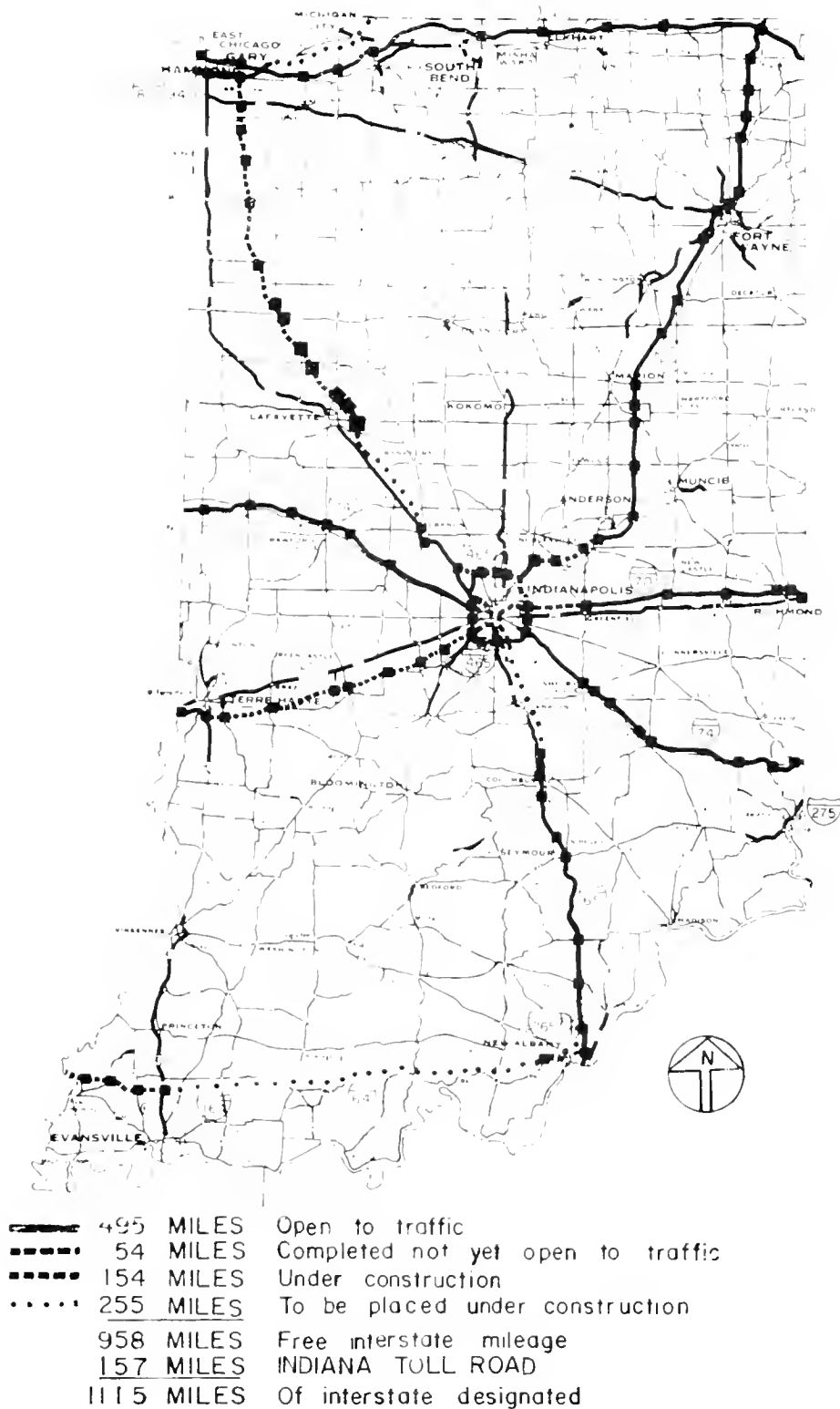


FIGURE 120. STATUS OF IMPROVEMENT OF INDIANA INTERSTATE SYSTEM AS OF JANUARY 1, 1968





it had a lower overall route priority than Interstates 69 and 74. After a majority of Interstates 69 and 74 had been completed, the construction emphasis shifted to Interstate 70 in 1965.

Interstate 70 was constructed westward from SR 1 to Indianapolis. The portion of Interstate 70 from the Ohio-Indiana State Line to Interstate 465 was opened to traffic on December 2, 1968. On the portion of Interstate 70 west of Indianapolis, the route was constructed eastward from Terre Haute to SR 43, eastward from SR 43, and westward from Interstate 465.

On August 31, 1967, Interstate 70 was opened from the Illinois-Indiana State Line to SR 46. The segment of Interstate 70 from SR 43 to Interstate 465 was opened on August 30, 1968. The remaining segment of Interstate 70 west of Indianapolis was opened on October 21, 1969, with the completion of the facility between SR 46 and SR 43. Excluding the portion of Interstate 70 within Interstate 465, Interstate 70 was the second route completed across Indiana.

Since Interstate 465 served as a bypass route for through Interstate traffic and as a distributor route for terminating Interstate traffic and crosstown traffic, the construction of Interstate 465 was partially geared to the construction of the other Interstate routes toward Indianapolis. Interstate 465 was completed from Interstate 65 (northwest of Indianapolis) to SR 100 (southeast of Indianapolis) before Interstate 74 was opened between Indianapolis and Cincinnati in October of 1964.

Before Interstate 70 was opened east of Indianapolis on December 2, 1968, Interstate 465 was extended from SR 100 to SR 67 - US 36 north of Interstate 70. The construction of Interstate 465 on the northside of Indianapolis complemented Interstate 465 around the southside of Indianapolis although the North Leg of Interstate 465 also served as a bypass and distributor route for local traffic. When



Interstate 69 was opened from SR 238 to SR 37 on October 5, 1970, the remainder of Interstate 465 was opened.

In late 1966, construction was resumed on Interstate 69 westward from SR 38 to Interstate 465. When the upgrading of existing SR 37 was completed on November 16, 1971, Interstate 69 was the fourth route completed across Indiana.

To link with the new bridge between Louisville and Jeffersonville, existing US 31E was upgraded to Interstate standards in Jeffersonville in November of 1964. In 1968, construction emphasis shifted from Interstate 70 to Interstate 65. Because US 40 had carried heavier traffic than US 31, US 52 and US 41, the completion of Interstate 70 had been emphasized over the completion of Interstate 65.

North of Indianapolis, Interstate 65 progressed southward from the Indiana Toll Road. The last segment of Interstate 65 north of Indianapolis was opened on December 15, 1971. Construction on Interstate 65 south of Indianapolis resumed northward from US 31 near Taylorsville and southward from Interstate 465. Interstate 65 from Indianapolis to Louisville was opened to traffic on June 30, 1972 with the completion of the projects between SR 252 and Southport Road. Interstate 65 was the fifth route completed across Indiana.

The Tri-State Highway was completed to the Indiana Toll Road in November of 1964, but then its overall construction priority fell below Interstates 65, 69, 70 and 74 because the Indiana Toll Road and several primary routes served the same corridor and coordination with other highway improvements in the corridor proved more complex than the other Interstate routes. Except for the extension of Interstate 94 from the Indiana Toll Road to SR 249 (Crisman Road) on August 15, 1969, there was no construction on the remainder of Interstate 94 until 1969.

In 1967, the widening of bridges on the Tri-State Highway from the Illinois-Indiana State Line to Indiana Toll Road was



begun to provide sufficient clearance for a third lane each direction in the median. The construction of the third lane was completed on October 31, 1969.

Since Interstate 94 was not completed between the Indiana Toll Road and the Indiana-Michigan State Line, much of the Interstate 94 through traffic followed the Indiana Toll Road to two-lane SR 39 and continued on SR 39 to Interstate 94 in Michigan. As two-lane SR 39 approached capacity, it was evident that SR 39 would have to be rebuilt to four lanes or construction would have to start on the remainder of Interstate 94. On November 29, 1971, Interstate 94 was extended eastward from SR 249 to US 20 (east of Portage) and southward from the Michigan-Indiana State Line to US 20-35 (south-east of Michigan City) removing the Interstate traffic load from SR 39. The remainder of the Tri-State Highway was opened to traffic on November 2, 1972.

Although location planning began in 1957 for the Interstate System inside Interstate 465, the Indianapolis Interstate projects could not be brought rapidly to the construction stage because of complex coordination with local transportation planning, complicated design work, extensive utility relocation, complex right-of-way acquisition and clearance, and extensive household and business relocation. The complexity of Interstate projects also increased as the radial routes approached the urban core; consequently, the Interstate radials were constructed from Interstate 465 inward.

When the South Leg of Interstate 465 was completed in October of 1964, the South Route of Interstate 65 was constructed from Interstate 465 to Keystone Avenue. In July of 1964, the Northwest Route of Interstate 65 was completed from Interstate 465 to Lafayette Road. The next radial segment opened was the extension of the Northwest Route inward to 38th Street on December 17, 1967.



When Interstate 70 was completed east of Indianapolis on December 2, 1968, the East Route of Interstate 70 was opened from Interstate 465 inward to Shadeland Avenue (SR 100). The West Route of Interstate 70 was opened from Interstate 465 to Holt Road on December 10, 1969, completing the construction of the Interstate radials in the suburban area of Indianapolis.

Because the Northwest Route was needed to relieve volumes on the arterials in the north-south corridor north of the urban core, the extension of the Northwest Route to the core was emphasized over the other radials. On January 21, 1972, the Northwest Route was completed to the Illinois Avenue interchange on the North Leg of the Inner Belt.

As of December 31, 1971, Indiana had opened eight-five percent (963 miles) of the 1134 miles of Interstate to traffic. Excluding the 157-mile Indiana Toll Road and the five-mile extension of the West Leg of Interstate 465 from Interstate 65 to the North Leg of Interstate 465, Indiana had completed eight-two percent of its Interstate System. Another twenty-seven miles were completed but not open to traffic and yet another eighty-six miles were under construction as of December 31, 1971. [Refer to Figure 121 (p. 749) and Tables 40 and 41 (pgs. 851 and 874).]

Since 1960, Indiana was among the top ten States in regard to Interstate mileage completed and under contract. Indiana moved up to fourth place among the States by the end of 1971.

### Completing the System

The first years of the construction period following 1971 were characterized by the withholding of Federal aid highway funds, the reduction of Indiana's Interstate apportionment as the Indiana Interstate System neared completion, and a national deemphasis on completion of the Interstate









Program. Because of decreased funding for the Interstate System, construction on the Indiana Interstate System began to slow down. During the latter part of the Interstate Program, the Indianapolis Interstate radials will be extended from their suburban termini to the urban core and Interstates 64, 164, 265, and 275 will be completed.

Although the Interstate 64 corridor lacked an existing four-lane route, this Interstate route had a lower construction priority than Interstates 65, 69, 70, 74, I-80-94, and 465 because it carried far lower volumes. Interstate 64 was extended from Spring Street to SR 64 on July 1, 1968, to reduce through traffic in the New Albany area. By September of 1971, Interstate 64 was also open to traffic from the Illinois-Indiana border to SR 57 northeast of Evansville.

In late 1970 Interstate construction emphasis shifted from the Tri-State Highway (Interstate 94) to Interstate 64. As of December 31, 1972, 70.10 miles of Interstate 64 were under construction. Only 18.32 miles between SR 162 and SR 37 had not yet been placed under contract.

The development time for the Interstate within the Indianapolis central city was longer than other routes because of the complexity of coordination, design, land acquisition, and relocation. Since the construction of the Interstates within the Indianapolis urban area were in the latter part of the Interstate construction program, this construction was most affected by the reduction in Interstate funding.

As of January 21, 1972, the Northwest Route in the central city and the north Leg of the Inner Belt had been completed. Although not open to traffic, short segments of Interstate were completed between Holt Road and Belmont Avenue on the West Route, between Keystone Avenue and State Avenue on the South Route, and between Ritter Avenue and Shadeland Avenue on the East Route by the end of 1972.



As of December 31, 1972 construction was underway on the West Route from River Avenue to Madison Avenue (some structures only) and on the East Route from a half mile east of Sherman Drive to west of Ritter Avenue. Only 8.86 miles (2.25 miles of the East Leg of the Inner Belt common to Interstates 65 and 70) had not yet been placed under construction contract. [Refer to Figure 122, p. 752].

Interstate 164 was a 1968 addition to the Indiana Interstate System. At the end of 1972, Interstate 164 was still in the preliminary location phase and had not reached the point at which a corridor public hearing could be held. Because Interstate 164 was the last route added to the Indiana Interstate System, it inherently had the lowest construction priority due to time needed for development.

Because Interstates 265 and 275 supplemented other Interstate routes, their construction was scheduled for the latter part of the Interstate Program. As of September 15, 1972, all grading and structures were under contract on Interstate 265. In November of 1970, construction began on the \$16 million Interstate 275 bridge across the Ohio River. Although funding cutbacks have delayed construction on Interstate 275, the segment of Interstate 275 from the Ohio River to US 50 was placed under contract for grading and the US 50 structure.

As of December 31, 1972, Indiana had opened 1005 miles of Interstate to traffic, had completed another five miles, and had placed eighty-one miles of the System under construction. [Refer to Figure 123 (p. 753) and Table 40 and 41 (pgs. 851 and 874)]. All engineering, right-of-way acquisition and relocation had been completed for all remaining segments of the Indiana Interstate System except Interstate 164.

Excluding the 4.96 miles of the West Leg extension of Interstate 465 (which was added to the Interstate System without mileage charge) and the 156.85 miles of the Indiana



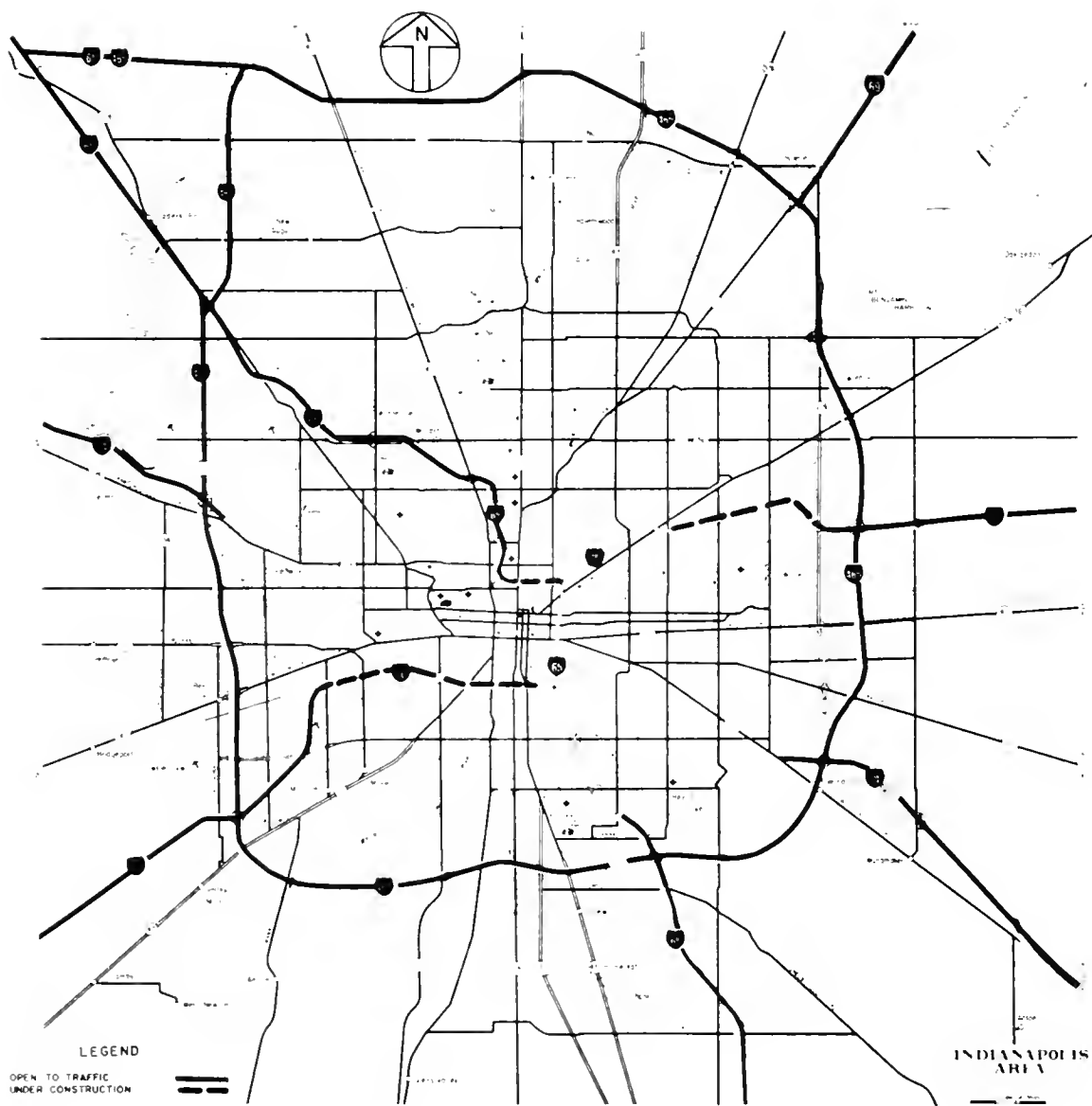


FIGURE 122. STATUS OF IMPROVEMENT OF INDIANAPOLIS INTERSTATES AS OF DECEMBER 31, 1972





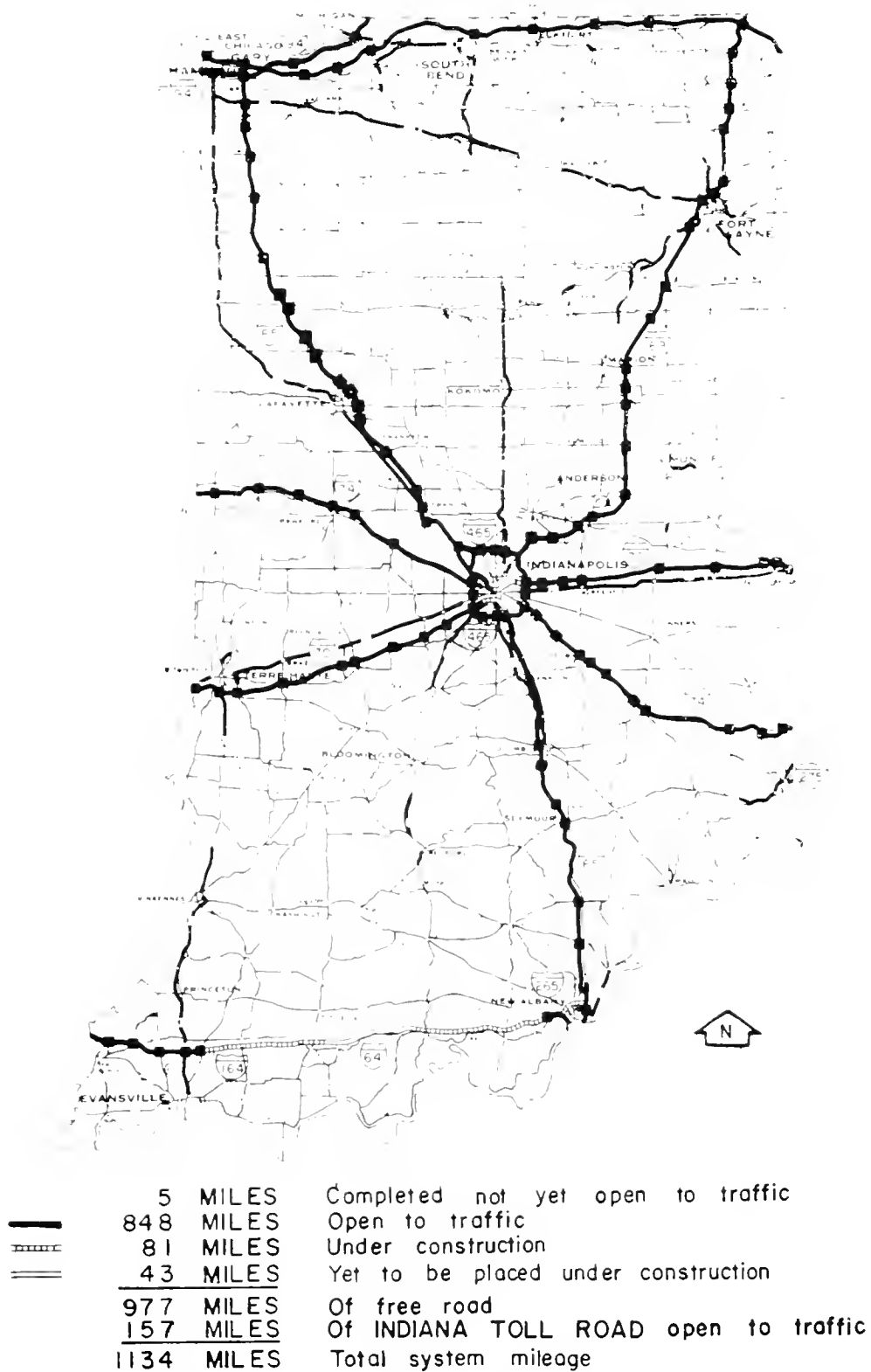


FIGURE 123. STATUS OF IMPROVEMENT OF INDIANA INTERSTATE SYSTEM AS OF DECEMBER 31, 1972



Toll Road, Indiana had completed eighty-seven percent of the System on the basis of mileage and roughly seventy-five percent of the System on the basis of cost. As of June 30, 1972, the Nation had only completed eighty percent of the Interstate System. [Refer to Figure 124, p. 755].

### Costs

For fiscal years 1957, 1958 and 1959, the Federal Interstate funds were apportioned to each State on the basis of an empirical formula. The empirical formula was equal to two-thirds the ratio of the population of each State to the total population of all the States, one-sixth the ratio of the land area in each State to the total area of land of all the States, and one-sixth the ratio of the mileage of rural delivery routes and star routes of each State to the total mileage of these routes in all the States.

Since Congress wanted the Interstate System completed simultaneously throughout the States, the apportionment of Federal Interstate funds for the fiscal years after 1959 was based on the cost of completing the System in each State. For fiscal years 1960 through 1966, the apportionment ratio for each State was the ratio of the total Federal and State cost of completing the Interstate System in that State to the total Federal and State cost of completing the Interstate System in all the States. After fiscal year 1966, the apportionment ratio was based on the Federal share of the completion cost rather than the Federal and State share of the completion cost.

### Interstate Cost Estimate Studies

Because the cost of completing the Interstate System within a State might vary with time, Congress requested a series of estimates of the cost of completing the Interstate



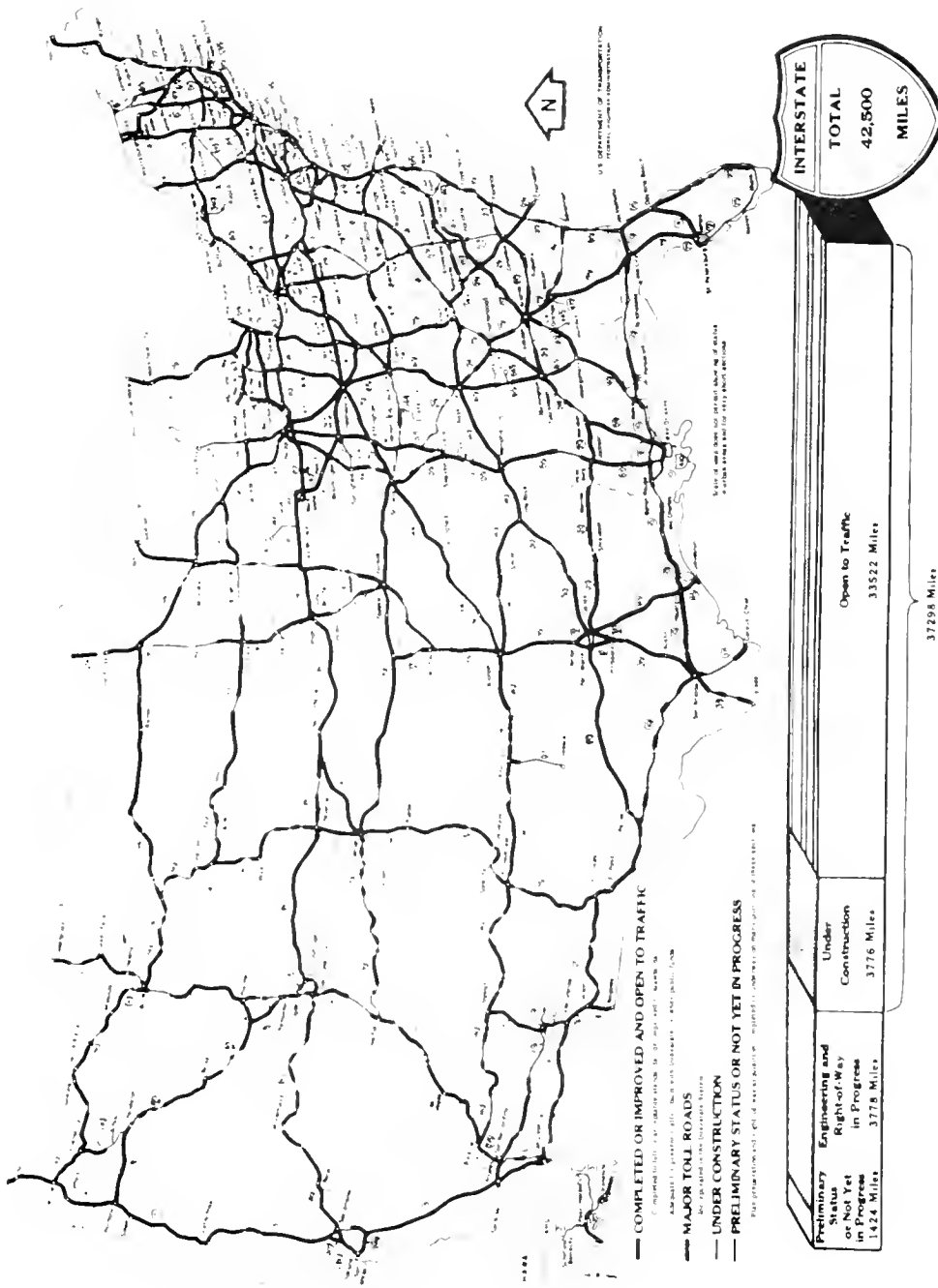


FIGURE 124. NATIONAL STATUS OF IMPROVEMENT OF INTERSTATE SYSTEM  
AS OF JUNE 30, 1972



System in section 108(d) of the Federal Aid Highway Act of 1956 and subsequently in section 104(b)5, Title 23, of the United States Code. The series of estimates were designed to enable Congress to adjust the Interstate apportionments so that each State had sufficient funds to complete its portion of the System concurrently with the System in other States. The revised estimates also eliminated the possibility of a State being penalized throughout the Interstate Program for an earlier poor cost estimate.

To insure uniformity in the preparation of the cost estimates throughout the States, the Federal Highway Administration developed an Instruction Manual for the Preparation and Submission of the Revised Estimate of Cost of Completing the Interstate System. The manual established provisions for the preparation of the estimate; outlined a method for forecasting traffic; and referred to standards, guidelines, specifications, and Federal memoranda to be used in the preparation of the estimate. The manual was revised for each estimate to reflect changes in laws and standards.

In preparing each cost estimate, a specific date was selected as the cutoff date. All Federal aid work authorized prior to the cutoff date was considered as having been completed under the existing financial arrangements. Consequently, the cost of work for which funds had been obligated was excluded from the cost estimate.

To provide a uniform basis for the cost estimates, a specific time period was selected for the unit construction costs. The unit construction costs were based on the weighted low bid prices in each State for construction awarded during that period.

The cost estimates were an estimate of the cost to complete the System if the construction was performed at the unit prices of the base period. There was no adjustment for inflation. Moreover, the cost estimates were based on existing





factors and excluded any forecast of future trends except increases in traffic.

1958 Cost Estimate. The Federal Aid Highway Act of 1944 authorized the designation of a 40,000-mile Interstate System. On August 2, 1947, a total of 37,681 miles of the System was designated. In September of 1955, the remaining mileage was designated. The Federal Aid Highway Act of 1956 increased the length of the System from 40,000 miles to 41,000 but excluded the 1,000-mile extension from the cost estimate to be used for apportionment purposes. Since adjustments in the originally designated 40,000 miles resulted in a savings of 1,452 miles, the Secretary of Commerce was able to designate an additional 2,102 miles of Interstate highways and reserved 350 miles for final adjustments. [Refer to Table 13, p. 758].

The 1958 Interstate Cost Estimate was based on the cut-off date of July 1, 1956, and on unit construction costs of the last half of calendar year 1956. The estimate was based on the cost to complete 38,548 miles of the System. The 1958 Interstate Cost Estimate reported that \$39,510 million was needed to complete the Interstate System.

The Indiana State Highway Commission estimated in 1958 that it needed \$1,068 million to complete the Interstate System in Indiana. When the funds already available were excluded from the cost estimate, Indiana needed \$927,049,000 in additional funds to complete the Interstate System. For fiscal years 1960, 1961, and 1962, the factor for apportioning Interstate funds to Indiana was 2.888 percent. [Refer to Table 14, p. 759]. Table 115 (p. 760) records the cost of completing the Interstate System in Indiana by route.

1961 Cost Estimate. The apportionment of funds for fiscal years 1963 through 1966 was based on the 1961 Interstate Cost Estimate which was presented to Congress in January of 1961.



TABLE 13. INTERSTATE MILEAGE DESIGNATED  
(IN MILES)

Date	Indiana			National					Included in Interstate Cost Estimates by the States
	Rural	Urban	Total	Designated Length	System Additions, Locations Approved	Mileage Reserved for Approved System Additions	Mileage Reserved for Final System Adjustment	Legislative Limitation (Total)	
12/20/44								40,000	
8/2/47				37,681	—	2,319	—	40,000	—
1948	906.0	159.4	1065.4	37,800	—	2,200	—	40,000	37,800
6/30/54	884	184	1068	37,700		2,300		40,000	40,000
9/15/55				40,000				40,000	—
6/29/56			1090	40,000		1,000		41,000	—
7/1/56				38,548		2,102	350	41,000	38,548
10/18/57			1089.4	38,548		2,102	350	41,000	—
1/1/60			1118.8	40,472		220	308	41,000	40,472
1/1/64			1114.5	40,886		93	21	41,000	40,886
1/1/67			1115.1	40,969	—	—	31	41,000	40,969
11/1/69			1129.4	42,495	—	—	5	42,500	42,495
1/1/71			1129.4	42,497	—	—	3	42,500	42,497
1/1/73			1129.4						



TABLE 14. FUNDS REQUIRED TO COMPLETE INTERSTATE SYSTEM<sup>1</sup>

(THOUSANDS OF DOLLARS)

Year of Interstate Cost Estimate	Cutoff Date for Cost Estimate	States	Estimate of Preliminary Engineering	Right-of-Way	Construction	Bond Projects and Advanced Construction Project Obligations	System	Subtotal	Less Amounts Apportionment for Fiscal Year Following Estimate	Estimate of State Funds to Match Apportionment for Fiscal Year Following Estimate	Unobligated Balance as of Cutoff Date for Estimate	Estimate of State Funds to Match Unobligated Balance	Amount Financed With Other Than FAI and State Matching Funds	Subtotal	FAI and State Matching Funds Required to Complete System	Federal Share of Funds Required to Complete System	Apportionment Factors Percent For Fiscal Years
1958	7/1/58	Ind. All	35,692	136,449	572,113	-----	-----	3,721,254	114,014 <sup>a</sup>	12,448	9,414	5,609	-----	140,705	327,247	8,271,344	2,985
								33,110,787	4,640,000	497,269	146,125	41,803	1,940,474	7,348,732	32,142,055	29,375,446	100.000
1961	1/1/61	Ind. All	1,142,35	41,080	723,711	-----	-----	4,444,36	62,457	6,340	126,287	14,032	-----	279,716	636,723	573,048	2,500
								33,368,236	2,138,700	230,267	3,290,066	347,407	1,401,081	7,446,821	25,461,215	22,915,724	100.000
1965	1/1/65	Ind. All	1,142,35	41,080	723,711	-----	-----	4,444,36	62,457	6,340	126,287	14,032	-----	279,716	636,723	573,048	2,500
								33,368,236	2,138,700	230,267	3,290,066	347,407	1,401,081	7,446,821	25,461,215	22,915,724	100.000
1968	1/1/68	Ind. All	55,405	2,240,519	23,946,307	3,111,784	-----	28,057,775	69,115	7,568	140,606	15,623	-----	231,212	442,955	424,060	2,148
								28,057,775	2,723,425	287,515	3,062,848	325,151	1,326,551	7,725,641	20,332,134	19,385,737	100.000
1970	1/1/70	Ind. All	4,609	29,723	539,424	-----	-----	570,156	81,243	9,027	94,650	10,517	-----	195,437	374,219	337,247	1,995
								27,928,645	3,606,213	389,685	3,336,208	353,218	1,462,202	9,233,526	19,689,112	16,703,082	100.000
1970	1/1/70	Ind. All	4,532	2,485	409,820	-----	-----	423,903	75,171	8,353	13,614	1,513	-----	98,698	325,245	222,721	1,471
								30,270,498	3,861,200	407,692	1,851,210	1,96,474	1,112,264	7,428,845	22,841,643	20,555,086	100.000
1972	1/1/71	Ind. All	5,220	7,766	400,528	-----	-----	414,714	54,443	6,049	67,583	7,509	-----	169,059	245,555	221,090	1,214
								32,830,397	3,904,600	413,834	5,835,824	618,505	1,960,648	12,733,411	20,146,986	18,218,301	100.000
1974	1/1/74	Ind. All	-----	-----	-----	-----	-----	381,390	-----	-----	-----	-----	65,644	-----	-----	-----	1975

<sup>a</sup>For fiscal years 1957, 1958, and 1959.<sup>b</sup>Federal Share of estimated total cost in Indiana is 90%; however, Federal Share of estimated total cost in some States is greater than 90%.<sup>c</sup>Apportionment factors for fiscal years 1960 through 1966 were based on the ratio of estimated cost of completing the Interstate System in each State to the estimated cost of completing the Interstate System in all States (Interstate and State Matching Funds compared). In subsequent fiscal years the apportionment factors were based on a Federal Share comparison.



TABLE 15. ESTIMATE OF COST OF COMPLETING THE INTERSTATE SYSTEM  
IN INDIANA BY ROUTE<sup>2</sup>

(THOUSANDS OF DOLLARS)

Base Date for Cost Estimate														Total FAI and State Matching Funds	Total Other Than FAI and State Matching Funds	Miles in Estimate			
	I-64	I-65	I-69	I-70	I-74	Tri-State		Elkhart- Kalamazoo	Indiana Toll Road		I-164	I-265	I-275	I-465	Total				
						I-80-94	I-94		I-90	I-80-90									
12/31/48 <sup>a</sup>																389,437	389,437	0	1065.4 <sup>e</sup>
6/30/54																867,000	867,000	0	1006
7/1/56	111,222	321,073	143,216	195,003	128,532	58,523	1,907	0	0	----	----	----	97,300	1,057,776	1,057,776	0	1089.4 <sup>e</sup>		
1/1/60	112,483	245,946	125,120	149,202	83,526	17,730	29,920	0	0	----	8,522	----	72,987	846,436	846,436	0	1118.8		
1/1/64	124,302	229,327	34,288	156,297	16,175	11,618	35,176	0	0	----	9,349	16,938	47,197	680,867	680,867	0	1114.5		
1/1/67	110,160	203,066	15,504	98,799	12,079	12,616	52,786	0	0	----	12,025	18,997	34,214	570,156	570,156	0	1115.1		
11/1/69	131,571	114,113	21,144	73,496	21,026	6,624	18,844	0	0	20,045	16,511	20,266	16,367	460,007 <sup>d</sup>	460,007 <sup>d</sup>	0	1129.4 <sup>e</sup>		
1/1/71	114,972	69,591	15,312	63,357	16,822	7,212	11,054	20,151	13,063	27,036	17,272	24,959	13,913 <sup>f</sup>	414,714	381,500	33,214 <sup>g</sup>	1134.1 <sup>f</sup>		
1/1/73	79,293	46,448	17,471	54,183	18,639	9,353	6,730	26,470	17,632	28,572	5,710	11,897	20,992	383,390	317,786	65,604 <sup>h</sup>	1134.1 <sup>f</sup>		
1/1/73 <sup>h</sup>	78,131	79,394	14,454	51,035	16,441	9,353	5,511	0	0	28,572	5,710	11,897	17,288	317,786	317,786	----	1134.1 <sup>f</sup>		

<sup>a</sup>Upgrading System on existing alignment to tolerable standards.

<sup>b</sup>Later increased to \$1,067,754,000 to include a \$597,000 increase for preliminary engineering and a \$9,381,000 increase in construction.

<sup>c</sup>Later reduced to \$423,903,000 to exclude \$36,104,000 for the widening of structures to shoulder width on previously completed projects.

<sup>d</sup>Later decreased to \$13,652,000 to exclude \$261,000 for the West Leg extension of Interstate 465 which was added to the Interstate System without cost.

<sup>e</sup>Later increased to \$33,475,000 to include \$261,000 cost of West Leg extension of Interstate 465.

<sup>f</sup>Includes 4.7 miles of the West Leg extension of Interstate 465 which was included in the Interstate System without mileage or cost charge.

<sup>g</sup>Includes \$21,502,000 in Federal Aid Primary Funds and \$44,102,000 in Toll Road Bond Revenues for bridge deck reconstruction.

<sup>h</sup>Cost of completion estimate by route to be financed only with Interstate and State matching funds.





The cost estimate was based on the cutoff date of January 1, 1960, and on the unit prices of fiscal 1959. The Federal Aid Highway Act of 1960 removed the restriction of the 1956 Act that excluded the 1000-mile extension from the cost estimate and apportionment. The States prepared estimates for the 40,472 miles of Interstate that were designated as of January 1, 1960. The cost of the 220 miles which were not finally located, was included by the Bureau of Public Roads in the total cost estimate at one million dollars per mile. The Bureau of Public Roads also included 308 miles, which were reserved for final adjustment, in the total cost estimate at one million dollars per mile.

According to the 1961 Interstate Cost Estimate, \$32,909 million was needed to complete the Interstate System. Indiana's share of the cost was \$846 million. Excluding the funds already available, Indiana needed \$636,720,000 in additional Federal and State funds to complete the System. The apportionment factor for fiscal years 1963 through 1966 was 2.501 percent for Indiana.

1965 Cost Estimate. For fiscal years 1967 through 1969, Interstate apportionments were based on the 1965 Interstate Cost Estimate.

This cost estimate was based on the unit prices of calendar year 1963 and on the cutoff date of January 1, 1964. The States submitted cost estimates for 40,886 miles of the System. Only 93 miles were not finally located and these were included in the total estimate by the Bureau of Public Roads at five million dollars per mile. The Bureau of Public Roads also included twenty-one miles, which were reserved for final measurement, in the cost estimate at five million dollars per mile.

The 1965 Interstate Cost Estimate reported that \$28,058 million was needed to complete the Interstate System. The Indiana Interstate cost estimate found that \$681 million



was needed to complete Indiana's portion of the System. Excluding the funds already available, Indiana needed \$404,060,000 in additional Federal apportionments to complete the System. Indiana's share of the total Federal apportionments for completing the System was 2.198 percent for fiscal years 1967 through 1969.

1968 Cost Estimate. In January 1968, the 1968 Interstate Cost Estimate was submitted to Congress for the apportionment of Interstate funds for fiscal year 1970. Through the Federal Aid Highway Act of 1968, Congress adopted the apportionment factors of the 1968 estimate for fiscal years 1970 and 1971.

The cost estimate was based on the cutoff date of January 1, 1967, and on the unit prices of calendar year 1966. The States submitted cost estimates for 40,969 miles of the System. Most of the route segments in the 93-mile group, which had not been finally located in January 1, 1964, were located by January of 1967 and were included in the States' estimates. The Federal Highway Administration held thirty-one miles in reserve and included their cost in the estimate at ten million dollars per mile.

According to the 1968 Interstate Cost Estimate, \$27,929 million was needed to complete the Interstate System. Indiana's share of the cost was \$570 million. Excluding the funds already available, Indiana needed \$337,247,000 in additional Federal funds to complete the System. The apportionment factor for fiscal years 1970 and 1971 was 1.995 percent for Indiana.

1970 Cost Estimate. According to the Federal Aid Highway Act of 1968, the 1970 Interstate Cost Estimate was to serve as the basis of apportionment for fiscal years 1972 through 1974. When the Federal Aid Highway Act of 1970 extended the completion date for the System from June 30, 1974 (under the 1968 Act) to June 30, 1976, the 1970 Act adopted the appor-



tionment factors of the 1970 estimate for only fiscal years 1972 and 1973, and requested another cost completion estimate in January of 1972 for the apportionment of funds in fiscal years 1974 and 1975 and still another cost completion estimate in January of 1974 for the apportionment of funds in fiscal year 1976.

The 1970 cost estimate was based on the unit prices of calendar year 1968 and on the cutoff date of November 1, 1969. The Federal Aid Highway Act of 1968 authorized an additional 1,500 miles for the Interstate System. On December 13, 1968, the Department of Transportation announced the designation of 1473 miles from the 1,500-mile extension. Subsequent additions and adjustments to the System exhausted the remaining authorized mileage for the System except for a five-mile reserve. The States submitted cost estimates for 42,495 miles of the System. Seventeen States did not have to prepare new cost estimates because they had no system adjustments subsequent to the year 1968. The five-mile reserve was included in the 1970 Interstate Cost Estimate at ten million dollars per mile.

The Federal Aid Highway Act of 1968 also authorized an additional 200 miles for the Interstate System to be used for modifications or revisions. However, adjustments under the 200-mile addition were not to be charged against the 42,500-mile legislative limit for the System. Furthermore, the costs of these adjustments were not to exceed the 1968 costs of mileage withdrawn from the System after 1968.

The 1970 Interstate Cost Estimate reported that \$30,270 million was needed to complete the Interstate System. Indiana's share of the cost was \$424 million. Excluding the funds already available, Indiana needed \$292,721,000 in additional Federal apportionments to complete the System. Indiana's share of the total Federal apportionment for completing the System was 1.417 percent for fiscal years 1972 and 1973.



1972 Cost Estimate. The 1972 Interstate Cost Estimate was submitted to Congress in January of 1972 as a basis for apportioning Federal Aid Interstate funds for fiscal year 1974 and 1975.

The cost estimate was based on the cutoff date of January 1, 1971 and on the unit prices for calendar year 1970. The States submitted cost estimates for 42,497 miles of the 42,500-mile System. The Federal Highway Administration included the remaining three miles (which were held in reserve for final measurement) in the 1972 cost estimate at ten million dollars per mile.

According to the 1972 Interstate Cost Estimate, the cost of completing the System was estimated at \$32,880 million. Indiana's share of the completion cost was \$414 million. Excluding the funds already appropriated, Indiana needed \$221,090,000 in additional Federal Interstate apportionments. The apportionment factor for fiscal years 1974 and 1975 was 1.214 percent for Indiana.

Additional Cost Estimates. The 1974 Interstate Cost Estimate will be submitted to Congress in January of 1974 as the basis for apportioning funds for fiscal year 1976. If the System completion date of June 30, 1976, (under the 1970 Federal Aid Highway Act) is extended farther in the future, the 1974 Interstate Cost Estimate will probably serve as the basis for apportioning funds for fiscal years 1976 and 1977; additional Interstate cost estimates will probably be requested for subsequent fiscal years.

In August of 1973, the Indiana State Highway Commission completed the 1974 Interstate Cost Estimate in Indiana based on the cutoff date of January 1, 1973, and on the unit prices of calendar year 1972. As of January 1, 1973, Indiana needed \$383 million to complete the System. Indiana estimated its needs roughly at \$262,114,000 in additional Federal Interstate apportionments in the fiscal years following 1973 to complete the System.





## Evolution of Costs

Because each Interstate Cost Estimate was based on the construction prices, laws and regulations in existence and included no adjustment for future trends except traffic growth, the estimates of the cost to complete the System varied. Increases in construction prices and changes in laws and regulations accounted for much of the variation in estimates of the cost to complete the System and in estimates of the total cost of the System with time.

The series of Interstate Cost Estimates provide a basis for a series of estimates of the total cost of the Interstate System. Referring to Table 16 (p. 766 ), an estimate of the total cost of the System for the Nation in any year equals the total of the estimates of the cost to complete the System in each State, less the cost financed with other than Interstate and State matching funds and plus the funds obligated by the States, the cost of the mileage which has not been designated, the cost of State highway planning and research, Federal administration and research, and contingencies.

The series of estimates of the total cost of the Interstate System in Indiana (Table 17 , p. 767 ) is based on the Interstate Cost Estimates for Indiana and funds obligated from the 1952 Federal Aid Highway Act to the cutoff date of the cost estimate.

Analysis of Increase from 1949 to 1955. For Indiana and the Nation, the total cost of improving the Interstate System in June of 1954 was nearly two and a half times the estimate in December of 1948. The difference in the estimates was primarily the result of a change in design standards. The estimate reported in Highway Needs of the National Defense of 1949 was based on the cost to correct existing critical deficiencies of the System on existing alignments to tolerable standards. On the other hand, the estimate in A 10-Year National Highway Program of 1955 was based on full-controlled access standards and geometric standards for a design speed







TABLE 17. ESTIMATED TOTAL COST OF THE INTERSTATE SYSTEM  
IN INDIANA  
(THOUSANDS OF DOLLARS)

CUT OFF DATE FOR INTERSTATE COST OF COMPLETION ESTIMATE

ITEM	12-31-48 TOTAL	6-30-54 TOTAL	7-1-56 TOTAL	1-1-60 TOTAL	1-1-64 TOTAL	1-1-67 TOTAL	11-1-69 TOTAL	1-1-71 TOTAL	1-1-73 TOTAL
ESTIMATED COST TO COMPLETE SYSTEM	389,437	867,000	1,067,754	846,436	640,467	370,136	423,903 <sup>a</sup>	414,714	383,390
LESS COST FINANCED WITH OTHER THAN INTERSTATE AND STATE MATCHING FUNDS	---	---	---	---	---	---	---	33,473 <sup>b</sup>	65,604
FUNDS NEEDED TO COMPLETE THE SYSTEM	389,437	867,000	1,067,754	846,436	640,467	370,136	423,903	381,239	317,786
FUNDS OBLIGATED FROM 7-1-56 TO CUT OFF DATE OF COST ESTIMATE	---	---	---	139,915 <sup>d</sup>	407,790 <sup>d</sup>	687,377	930,733	1,034,712	1,453,747
TOTAL COST OF THE SYSTEM SINCE 7-1-56	---	---	---	139,915 <sup>d</sup>	407,790 <sup>d</sup>	687,377	930,733	1,034,712	1,453,747
FUNDS OBLIGATED BEFORE 7-1-56	---	---	---	---	---	---	---	---	---
TOTAL COST OF SYSTEM IN INDIANA	389,437	867,000	1,067,754	986,351 <sup>d</sup>	1,048,257 <sup>d</sup>	1,237,463	1,374,636	1,413,931	1,461,333
INCREASE IN COST (TOTAL FUNDS)	477,363	207,840	- 61,403	107,306	168,874	117,175 <sup>f</sup>	41,293 <sup>g</sup>	43,382	---

<sup>a</sup> Figures used by Bureau of Public Roads.

<sup>b</sup> Cost of improvements to the Indiana Toll Road and cost of West Leg extension of Interstate 465 (non-Interstate funds).

<sup>c</sup> Also includes I-37 funds of Federal Highway Act of 1957 and 18 funds of Federal Aid Highway Act of 1954. Figures also include HPS and PE funds.

<sup>d</sup> Based on figures used in Indiana analysis of cost increase.

<sup>e</sup> Based on figures used in Indiana analysis of cost increase assuming Federal participation roughly along percent.

<sup>f</sup> If the \$36,104,000 to the 1970 estimate, excluded by FHWA, is included, the increase comes to \$133,279,000. Indiana used \$133,308,000 for analysis of cost increase.

<sup>g</sup> If the \$33,473,000 in non-Interstate funds in the 1977 estimate is included, the increase comes to \$74,768,000. Indiana used \$74,649,000 for analysis of cost increase.



of seventy miles per hour and for the traffic volumes of 1975. To achieve the latter, most of the Interstate had to be relocated.

There were other important differences in the estimates although they were less significant. The 1949 estimate was based on the construction prices of calendar year 1948 as compared to the first half of calendar year 1954 for the 1955 estimate. The States only reported the cost of correcting existing deficiencies on the mileage designated in August of 1947; the costs of improving approximately 2,200 miles of urban feeder routes were excluded. The 1955 estimate, however, included four billion dollars for 2,300 miles of urban feeder routes which had not been designated.

Analysis of Increase from 1955 to 1958. The 1958 estimate of the total cost of the System at \$37,570 million (excluding \$1,940 million to be financed with other than Interstate and State matching funds) was nearly forty percent higher than the 1955 estimate at \$27,000 million. These figures were based on the same routes. If the cost of the 1,452 miles saved through detailed locations of the original 40,000 miles and the cost of the 1,000-mile extension were included in the 1958 estimate, the total cost of the System was fifty-two percent greater. In Indiana, there was a twenty-four percent increase in the cost of the System in the two years between the cutoff dates of the estimates.

The two estimates were based on the same design standards; however, the 1955 estimate was not based on uniform guidelines in the preparation of the estimate. Furthermore, the 1955 estimate was developed in a short span of time, and some States had limited experience in estimating the cost of controlled access highways, particularly in urban areas. The Bureau of Public Roads had added four billion dollars for the 2,300 miles of undesignated urban feeder routes in 1955; however, the States estimated the cost of these routes at nine billion dollars in the 1958 estimate.





Several other factors accounted for the difference in the two estimates of the total cost of the System. Because of improved traffic forecasting methods and higher population forecasts, the traffic forecasts for 1975 subsequent to the 1956 Act were fifteen percent higher than previous forecasts. This resulted in a five percent increase in the total cost of the System.

Because the 1956 Act extended the objectives of the Interstate System to include service to local needs, there was a sixty-three percent increase in the number of highway grade separations, interchanges, other structures, and frontage roads over the 1955 estimate. This increased local service accounted for a fifteen percent increase in the total cost of the System. Construction costs rose twelve percent between mid-1954 and the last half of 1956. Utility adjustments, signing, and lighting cost increases accounted for another three percent increase in the total cost of the system.

Cost Analysis from 1958 to 1961. Adding the cost of the 1000-mile extension and the 1,452-mile savings to the 1958 estimate of the States, there was no change in the total cost of the System between the cutoff dates of July 1, 1956 and January 1, 1960. Excluding the costs of State planning and research and Federal administration and research, the 1961 construction cost of the System was approximately one billion dollars less than the 1958 estimate. Indiana reported an \$82 million decrease in the total cost of the System.

The temporary stabilization of the total cost of the System was primarily due to the establishment of design guidelines by the Bureau of Public Roads to hold down costs. The Bureau of Public Roads established specific guidelines for interchange spacing. These interchange spacing guidelines resulted in the elimination of many proposed interchanges in Indiana.



Specific requirements were also established for the justification of interchanges, separations, frontage roads and other structures. In 1960, Indiana had to justify all interchanges, separations and frontage roads that had not already been approved for construction. The Indiana State Highway Department had to eliminate several separations because they could not be justified under the new guidelines.

The Bureau of Public Roads also established a maximum number of lanes based on the size of the urban area. If there was doubt that a certain element would be needed by 1975, the instructions for the preparation of the 1961 estimate required the exclusion of such elements from the estimate.

Analysis of Increase from 1961 to 1965. From the 1961 estimate to the 1965 estimate, the estimated total cost of the System increased \$5,800 million (14.1 percent) for the Nation and \$102 million (10.3 percent) for Indiana. The increase resulted from increases in cost due to System additions and adjustments; changes in unit prices between 1959 and 1963; increases in right-of-way values, particularly in urban areas; a change in the design year; and changes in construction quantities reflecting more developed design plans (additional lanes, additional structures and heavier pavement) to accommodate the increase in traffic forecast for the System. A monetary breakdown of the cost increases by major category appears in Table 18 (p. 771) for the Nation and Table 19 (p. 772 ) for Indiana.

The Federal Aid Highway Act of 1963 changed the design year of the System from 1975 to twenty years from the date of construction approval of each project. This change in law caused a \$342 million increase in the total cost of the System for the Nation. Indiana reported that the change in design year resulted in an increase of \$2,469,000 for the total cost of its System. The Bureau of Public Roads, however, pared this figure to \$1,810,000 for Indiana in the



TABLE 18. COST ANALYSIS OF INCREASE OF INTERSTATE COST  
FOR NATION<sup>4</sup>

(MILLIONS OF DOLLARS)

Interstate Cost Estimates Compared	1500-Mile Authorization by Fed Aid Hwy Act of 1968	System Adjustments, Deletions, and Additions	Unit Price Change	Increase due to Social, Economic, and Environmental Impact Considerations including Joint Development—Multiple Use Features	Increase due to Relocation Assistance	Mass Transit and Urban Fringe Parking	Increase in Right-Of-Way Costs	Design Year Change	Increase in Preliminary Engineering Costs	Heavier Design of Roadway, Base, Surface, and Shoulder to Accommodate Heavier Volumes	Extra Stage of Pavement on Completed Projects	Upgraded Roadway Design	Additional Interchanges and Grade Separations	Cost Attributable to Change in Structure Designs	Safety Improvements on Completed Projects	Additional Safety Features on Work Under Construction	Increase due to Erosion Control, Roadside Rest Areas, and Landscaping	Additional Lanes	Added Cost to Provide a Minimum of Four Lanes	Increase due to Excavation, Embankment, Drainage, Utility Adjustments, Roadside Improvements, and Signs	Subtotal Increase in Construction Costs	Increase in Allowance for State and FHWA Planning, Administration, Research, and Contingencies	Increase in Cost of Century Freeway in Los Angeles	West Virginia Turnpike	Total Difference in Interstate Cost Estimates
1961 over 1958	----	----	----																						0
1965 over 1961	----	1,141	1,135				693	342	161	367			289	78				397		1,207	5,800				5,800
1968 over 1965	----	1,085	1,875				890		385	1,045	200		990		685	845	555	340	335		9,230	470			9,700
1970 over 1968	3,375	780	2,395		180		730		350			2,435	240	830	335		285	320			12,255	652	463		13,370
1972 over 1970	----	-235	3,825	515	90	125	160		125			785	185		230			100			5,905	415	110		6,430



TABLE 19. 1965 INTERSTATE COST ESTIMATE: COST ANALYSIS OF INCREASE IN COST OVER 1961 ESTIMATE.<sup>5</sup>

(THOUSANDS OF DOLLARS)

Interstate Route	Section Number	Total Increase Over 1961 Estimate	Breakdown of Cost Increases Due to Changes in Design, Construction Quantities, and Construction Prices													Status December 1, 1964	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	Authorized	Not Authorized
I-64	A1-2	- 585	0	0	0	0	- 98	-2	- 515	0	0	0	0	215	-730	(14)	(15)
I-64	A6-2-															-33	-552
I-64	A10-1	14,779	0	0	0	0	1,447	-179	13,509	-405	0	0	0	9,170	4,744	205	14,574
I-64	A10-2-1-	7,675	0	0	0	0	4	438	6,622	1,318	457	0	0	2,353	2,494	936	6,739
I-64	A13-1-1-																
I-64	A21	383	0	0	0	0	-311	282	412	0	130	0	0	216	66	370	13
I-65	Balance	2,262	0	0	0	0	401	4,103	-3,072	1,598	150	0	0	-7,011	2,091	646	1,616
I-65	A14-2-																
I-65	A13-0-1	34,318	0	0	0	0	7,343	1,924	25,051	5,940	5,500	100	0	2,430	11,181	1,050	33,268
I-69	A1-	323	0	0	0	0	679	597	-1,041	2,929	0	0	0	-384	-3,586	29	294
I-69	A1-5																
I-69	A17	-1,947	0	0	0	0	2,162	151	-7,280	0	0	0	0	-8,583	-697	-6,239	-728
I-70	Balance	-1,359	0	0	0	0	339	-56	-2,485	0	480	0	0	-5,341	2,376	-413	-946
I-70	A12-3-																
I-70	A20	22,565	0	0	0	0	4,634	1,167	16,764	1,386	0	0	0	4,486	10,892	2,239	20,326
I-74	A1-1-																
I-74	B9	-16,192	0	0	0	0	1,051	-1,636	-15,607	-1,565	0	0	0	-7,716	-6,326	-15,326	-966
I-80	A1-0-1-																
I-80	A3-4	11,907	0	0	0	0	505	332	11,070	444	0	0	0	6,500	4,126	7,740	4,167
I-80	A13	0	Total Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I-90	A1-																
I-90	A3-2	0	Total Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I-94	A6	6,225	0	0	0	0	480	212	5,533	0	0	0	0	4,730	803	140	6,035
I-265	A1-1-																
I-265	A4	1,138	0	0	0	0	-379	59	1,458	0	0	0	0	504	994	32	1,101
I-275	A1-																
I-275	A3	16,938	16,938	0	0	0	0	0	0	0	0	0	0	0	0	-420	16,518
I-465	A1-1-1-																
I-465	A4-2-1	5,084	0	0	0	0	185	103	4,796	700	2,340	0	0	-1,200	2,356	505	4,571
I-465	A10	3,812	0	0	0	0	1,121	685	1,868	-48	143	0	0	255	1,518	2,631	1,181
Total		102,306	16,938	0	2,469	0	19,116	8,700	55,083	12,397	9,800	100	0	524	32,262	-5,013	102,319





1965 Interstate System Cost Estimate to Congress.<sup>6</sup> The change in design year accounted for 5.9 percent of the cost increase nationwide and 2.4 percent of the cost increase in Indiana.

For the Nation and Indiana, the largest increases between 1961 and 1965 in cost of the System were attributable to excavation, embankment, drainage, utility adjustments, roadside improvements and signs (all recorded in column 13 of the Indiana analysis). Changes in these items were due to more refined quantities as the design plans neared completion.

In Indiana, increases in the cost of right-of-way in the Indianapolis urban area accounted for the second highest increase in cost. Increases in right-of-way cost amounted to 18.6 percent of the total cost increase in Indiana and to 13.2 percent of the cost increase nationwide.

The cost of System adjustments and additions resulted in the second highest increase in total cost for the Nation and in the third highest increase in total cost in Indiana. The addition of Interstate 275 in Indiana was estimated to cost \$16.9 million.

On a national basis, a change in construction prices from 1959 to 1963 accounted for 19.1 percent of the total cost increase. Although construction cost was the third highest factor in the total cost of the System in the Nation, it was a minor factor in the increase in cost in Indiana (0.5 percent).

Analysis of Increase from 1965 to 1968. On the basis of the 1968 Interstate Cost Estimate, the total cost of the System increased 20.7 percent (\$9,600 million) for the Nation and 15.4 percent (\$169 million) for Indiana. An analysis of the cost increases appears in Table 18 (p. 771) for the Nation and in Table 20 (p. 774) for Indiana.

A change in unit prices from 1963 to 1966 was the most significant factor in the increase. This factor accounted



TABLE 20. 1968 INTERSTATE COST ESTIMATE: COST ANALYSIS OF  
INCREASE IN COST OVER 1965 ESTIMATE<sup>7</sup>

(THOUSANDS OF DOLLARS)

Interstate Route Number	Total Increase Over 1965 Estimate	Breakdown of Construction Cost Increases Due to Changes in Design, Added Features, Construction Quantities, and Construction Prices- Column 9																	Status Dec. 1, 1967		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)		(18)	(19)
I-64	16,322	0	0	0	0	100	1,705	0	15,347	512	0	0	0	1,136	5,266	58	0	8,161	294		
I-65	55,966	0	0	0	0	19,132	-3,909	0	40,763	0	0	0	0	283	7,519	6,260	0	26,139	562		
I-69	6,298	0	0	0	0	0	- 109	0	6,407	622	0	0	0	0	623	1,851	0	2,817	494		
I-70	24,423	0	0	0	0	6,456	456	0	17,511	0	288	0	0	637	764	2,167	0	13,161	294		
I-74	11,998	0	0	0	0	0	38	0	11,960	0	0	0	0	633	0	7,430	0	3,500	397		
I-80	3,571	0	0	0	0	0	- 435	0	4,004	0	0	0	0	407	0	180	0	3,419	0		
I-94	21,134	0	0	0	0	0	197	850	20,107	1,646	0	0	0	903	2,827	0	0	14,641	90		
I-265	3,532	0	0	0	0	0	37	1,126	2,349	0	0	0	0	229	1,619	0	0	456	45		
I-275	2,325	0	0	0	0	0	65	0	2,260	0	0	0	0	35	1,106	0	0	1,104	15		
I-465	23,017	0	0	0	0	0	- 116	0	28,133	0	0	0	0	401	1,745	931	0	20,003	53		
Total	168,826	0	0	0	0	25,688	-2,681	1,976	143,843	2,780	288	0	0	4,864	21,449	16,877	0	93,381	2,204	30,471	138,355



for 55.0 percent of the increase in the total cost of the System in Indiana and for 19.3 percent of the increase nationally. From 1960 to 1966, the Bureau of Public Roads price trend revealed a steady increase exceeding 2.5 percent per year.

A change in design standards with respect to safety was the next most significant factor in increasing the total cost of the System in Indiana and the Nation. Safety improvements on completed projects amounted to \$685 million for the Nation and \$18.9 million for Indiana. The cost for safety features on work to be completed amounted to \$845 million for the Nation and \$21.4 million for Indiana. Consequently, safety improvements accounted for 15.8 percent of the cost increase nationally and for 23.4 percent of the cost increase in Indiana.

A retroactive change in the guidelines on rest park spacing resulted in an increase in the number of rest parks on the System. Because rest parks are justified on the basis on safety, a portion of the increase in cost found for erosion control, rest areas and landscaping was also attributable to safety.

An increase in right-of-way cost in the Indianapolis urban area resulted in the third highest increase in the total cost of the System in Indiana, accounting for 15.2 percent of the total cost increase. An increase in right-of-way cost ranked sixth in significance for the Nation. The Bureau of Public Roads reported that the cost of right-of-way increased five to ten percent per year on uncompleted segments of the System.

System additions and adjustments resulted in the third highest increase in total cost of the System for the Nation.

Increase in volume forecasts resulted in the need for heavier pavement structures. This factor accounted for the fourth highest increase in total cost for the System nationally.



A change in Federal policy in 1968 allowed Interstate fund participation in the cost of an additional stage of pavement on projects authorized prior to October 24, 1963, which were determined to be structurally inadequate for the appropriate design year traffic. This factor accounted for a \$200 million increase in the total System cost for the Nation.

The Federal Aid Highway Act of 1966 required a minimum four-lane divided highway design for the System without regard for the travel forecasts of the design year. Congress passed this provision to eliminate the dangerous transition from a four-lane facility to a two-lane facility. This factor resulted in a \$335 million increase in the cost of System nationally. Indiana had no two-lane Interstate facilities since the change in the design year by the Federal Aid Highway Act of 1963.

The remaining cost changes were due to an increase in preliminary engineering costs; additional interchanges and grade separations; additional lanes; and an increase in the allowance for State and Federal planning, research, administration, and contingencies.

Analysis of Increase from 1968 to 1970. On the basis of the 1970 Interstate Cost Estimate, the total cost of the System increased 23.7 percent (\$13,370 million) for the Nation and 12.1 percent (\$153 million) for Indiana. A breakdown of the factors causing the increase appears in Table 18 (p. 771) for the Nation and in Table 21 (p. 777) for Indiana.

The 1500-mile authorization by the Federal Aid Highway Act of 1968 accounted for the largest portion (25.2 percent) of the increase in the total cost of the System for the Nation. The addition of Interstate 164 resulted in an increase of \$20,045,000 in total cost of the System in Indiana.





TABLE 21. 1970 INTERSTATE COST ESTIMATE: COST ANALYSIS OF  
INCREASE IN COST OVER 1968 ESTIMATE<sup>8</sup>  
(THOUSANDS OF DOLLARS)

Interstate Route	Total Increase Over 1968 Estimate	Breakdown of Construction Cost Increases — Column 8															Motorist Service Signs
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
I-64	32,158						667	1,250	30,241					156	1,794	28,164	127
I-65	26,596						1,259	1,698	23,639					793	11,183	11,377	286
I-69	14,651						769	864	13,061					40	15,144	-2,306	183
I-70	28,462						9,173	1,090	18,199					1,510	11,811	4,723	155
I-74	9,604						73	506	9,025						10,477	-1,588	136
I-80	4,405						- 35	325	4,115						3,237	878	
I-90	0																
I-94	3,241						997	488	1,756	384						1,360	12
I-164	20,045																
I-265	4,041						933	220	2,828							2,833	- 5
I-275	2,579						100	72	2,407							2,422	- 15
I-465	7,524						426	174	6,924						9,869	-2,912	- 33
Total	153,306	20,045	0	0	0	0	14,379	6,687	112,195	384	0	0	0	2,499	63,515	44,951	846



The largest increase in the total cost of the System in Indiana was attributable to the cost of correcting safety deficiencies on projects previously considered completed. The cost of major and minor safety improvement projects was estimated to be \$63,515,000 in Indiana. The Federal Highway Administration later reduced this figure to \$27,410,000 by requiring only mainline bridges in widening to shoulder width. With this adjustment, changes in unit price accounted for the largest increase in cost in Indiana followed by safety improvements and the addition of Interstate 164. Safety projects on completed projects throughout the Nation accounted for a \$335 million increase.

Upgraded roadway designs resulted in the second largest increase in cost for the Nation. An upgraded roadway design included major design changes and costs resulting from an increased emphasis on environmental considerations, preservation of parks and historical sites, depressed roadways, and multiple use of right-of-way. Upgraded roadway designs accounted for 18.2 percent of the cost increase.

Unit price changes amounted to 17.9 percent of the national increase, the third largest increase.

The remainder of the 1970 increase was attributable in varying degrees to the following: additions and adjustments to 41,000 miles of the System; relocation assistance; increase due to right-of-way and preliminary engineering costs; additional interchanges and grade separations; changes in structural design, excluding roadway design; increased costs for landscaping, rest parks and erosion control; additional lanes; and increases in administrative, planning and research costs, and contingencies.

Analysis of the Increase from 1970 to 1972. From the 1970 estimate to the 1972 estimate, the estimated total cost of the System increased \$6,430 million (9.2 percent) for the Nation and \$74.6 million (5.4 percent) for Indiana. Excluding \$33.5 million of the cost increase in



Indiana, which was to be financed with other than Interstate and State matching funds, the estimated total cost of the System in Indiana only increased \$41.1 million (3.0 percent). A breakdown of the factors contributing to the cost increase appears in Table 18 (p. 771) for the Nation and Table 22 (p. 780) for Indiana.

Unit price changes from 1968 to 1970 accounted for 59.5 percent of the cost increase for the System throughout the Nation and 24.6 percent of the increase in Indiana. This factor resulted in the most significant increase in cost for the Nation and the second most significant increase in Indiana.

The largest increase in cost in Indiana was attributed to upgraded structure design followed by unit price changes and upgraded roadway design. Indiana included \$33,214,000 for upgrading of the Indiana Toll Road in the 1972 Interstate Cost Estimate. This cost was reflected in the increase in total cost of the System attributable to upgraded structure and roadway designs. Improvement of the Indiana Toll Road, however, involves non-Interstate funds, and exclusion of this improvement cost from the cost increases makes unit price changes responsible for the largest cost increase followed by the cost of upgraded structure design.

Due to higher design standards in the area of safety, upgraded roadway designs accounted nationally for the second largest increase in the total cost of the System.

The third largest national increase in cost (\$515 million or 8.0 percent) was attributed to environmental considerations including socioeconomic and environmental impact, joint development, and multi-use features. Although Indiana did not report a cost increase attributable to environmental considerations, a special report on environmental costs in Indiana reported that \$44,096,800 or 10.63 percent of the 1972 estimate of the cost of completing the System was attributable to environmental considerations.



TABLE 22. 1972 INTERSTATE COST ESTIMATE: COST ANALYSIS OF  
INCREASE IN COST OVER 1970 ESTIMATE<sup>9</sup>

(THOUSANDS OF DOLLARS)

Breakdown of Construction Cost Increases - Column 10																		
Interstate Route Number	Total Increase Over 1970 Estimate	(3) Increase Due to System Addition	(4) Increase Due to Social, Economic or Environmental Considerations	(5) Increase Due to New Relocation Assistance	(6) Increase Due to Mass Transit or Fringe Parking Proposals	(7) Increase Due to New R/W Acquisition	(8) Increase in R/W Costs on Remainder of Route or Segment	(9) Increase in PE Costs on Remainder of Route or Segment	(10) Construction Cost Increase (Col 2 minus Cols 3-9 Inclusive)	(11) Increase Due to Added Interchanges and Separations	(12) Increase Due to Upgraded Designs for Structure Units	(13) Increase Due to Additional Lanes to Meet Requirements	(14) Increase Due to Upgraded Designs for Roadway Items	(15) Increase Due to Unit Price Change	Quantity Increase Due to More Detailed Estimate	Inc. Due to Auth. Cost for Proj. 8-3-69 & Obligations for These Proj. 12-31-70 Training Program Cost (Section 110 1970 Highway Act)		
I-64	12,711			63		165	826	141	11,516		1,586			4,035	6,005	(106)	(106)	
I-65	3,695						2,194	92	1,409		3,599		931	2,346	-3,600	-134	24	
I-69	2,476						237	17	2,222				704	514	1,205	-1,885	18	
I-70	- 190						213	101	-504				457	2,286	-2,147	-1,112	12	
I-74	4,165						- 65	140	4,090		2,020		1,706	456	54	-146		
I-80	14,207						682	504	13,021		9,826		2,565	263	623	-256		
I-90	20,151						0	831	19,320		17,523		1,797					
I-94	- 862						- 22	- 66	-774					492	111	-1,377		
I-164	6,991						293	610	6,088					6,088				
I-265	831						-196	20	1,007					331	476			
I-275	8,548						0	112	8,436	11				899	7,595	- 69		
I-465	1,926						- 60	153	1,833					490	2,471	-1,128		
Totals	74,649	0	0	63	0	165	4,102	2,655	67,664	11	34,554	0	8,160	18,400	12,793	-6,308	54	





Environmental considerations in urban areas accounted for \$7,778,850. The following right-of-way expenses were considered environmental costs: additional takings for buffer zones or for the acquisition of whole blocks, multiple use, replacement of park land, more costly right-of-way to avoid parks and residential areas, and rodent control. Environmental considerations in construction included chemical treatment of the roadside, landscaping, turf establishment, drainage, dust control, aesthetics, and erosion control.

Special features attributable to environmental considerations encompassed rest areas; pedestrian structures; drainage; noise barriers; multiple use facilities; costly relocation; costs to reduce adverse environmental impacts; costs to relocate historical structures; and additional costs for viaducts, depressed roadbeds, greater structure lengths, and viaducts rather than embankments to improve environmental compatibility.

Relocation assistance resulted in a \$90 million increase in the total cost of the System throughout the States. Relocation assistance accounted for 1.4 percent of the increase between the 1970 and 1972 estimates and 1.3 percent of the increase between the 1968 and 1970 estimates.

The remainder of the cost increase was attributed to mass transit and fringe parking proposals; increases in right-of-way and preliminary engineering costs; additional interchanges and separations; safety improvements; additional lanes; and increases in the allowance for administration, planning, research, and contingencies.

Future Increases in the Total Cost of the System. From July 1, 1954 to January 1, 1971, the total cost of the Interstate increased from \$27 billion to \$76.3 billion for the Nation and from \$867,000,000 to \$1,401,018,000 for Indiana.

This is a 182.6 percent increase in the total cost of



the System for the Nation and a 61.6 percent increase cost of the System for Indiana. Throughout the Interstate Program, the percent increase in total cost in Indiana was always less than the national average for each successive estimate.

An estimate of the total Federal cost of the System based on The 1972 National Highway Needs Report was found to be \$67 billion. This figure was below the Federal share of the total cost as reported in the 1972 Interstate Cost Estimate. A revision in the needs report increased the total Federal cost of the System to \$70 billion. This latter figure would place the total cost of the System at \$77.8 billion. However, all estimates of the total cost of the System disregarded future trends.

Because more than eighty percent of the System was completed in the Nation in 1972, future increases in the total cost of the System should become successively smaller. As Indiana has completed eighty-seven percent of the System and the percent increase in cost in Indiana has always fallen below the national average, the percent increase in the total cost of the Indiana System should remain below the national average.

Changes in construction prices accounted for a majority of the cost increase for the Nation according to the 1972 Interstate Cost Estimate, and they will probably account for a majority of any future increases. Changes in unit prices will also probably account for a significant portion of any future increases in Indiana. Construction cost will probably continue to escalate, and the ultimate cost of the System will continue to increase as the completion of the System is delayed.

#### Actual Costs

As of June 30, 1973, Indiana had expended \$1,110,921,715 in State and Federal funds on the completion of the Inter-



state System. This figure included \$2,348,566 under the Federal Aid Highway Act of 1952, \$14,025,983 under the 1954 Act, and \$1,094,547,166 under the 1956 Act. Expenditures on the Interstate System in Marion County amounted to approximately \$287 million in January of 1972 or roughly twenty-five percent of the total Interstate expenditures.

Expenditures on the Interstate System and all systems in Indiana appear in Table 23 (p. 784). In fiscal year 1972, expenditures on the Interstate System in Indiana fell below expenditures on all other systems.

A general summary of the costs by Interstate route appears in Table 24 (p. 785). The costs are actual expenditures on the routes in most cases. However, some cost estimates are included for uncompleted projects on Interstate 64, and on Interstates 65 and 70 in Indianapolis. The costs for each route are also broken down by major categories. This Table also includes information by route on the date the first road contract was awarded, on the date the last road contract was completed, and on the date the last project was opened to traffic.

Based on the 1972 estimate of the total cost of the System, Indiana had completed 78.1 percent of the System in terms of Interstate and State matching funds on June 30, 1973. On the basis of the 1974 estimate of the total cost of the System, Indiana had completed 75.6 percent of the System costwise on June 30, 1973.

According to the 1974 cost estimate, Indiana will spend \$358 million more in Interstate and State matching funds to complete the System. This figure includes roughly \$28.6 million for Interstate 164, \$19.7 million for Interstate 265, \$26.0 million for Interstate 275, \$178 million for Interstates 65 and 70 in Indianapolis, and the remainder for the completion of Interstate 64 and the safety improvements on completed routes. Table 32 (p. 805) gives a



TABLE 23. EXPENDITURES IN INDIANA<sup>10</sup> (FEDERAL AND STATE FUNDS)

(DOLLARS)

Fiscal Year	1966		1967		1968		1969	
	Interstate	Total	Interstate	Total	Interstate	Total	Interstate	Total
Right Of Way Relocation							23,246,782	31,648,801
Formal Contracts							798,633	976,373
Consultant Engineers							80,022,026	124,623,010
Total	72,209,000	117,944,000	84,291,000	129,021,000	111,510,000	162,838,000	2,002,477	6,054,785
							106,069,918	163,302,969

Fiscal Year	1970		1971		1972	
	Interstate	Total	Interstate	Total	Interstate	Total
Right of Way	10,380,662	18,545,743	4,035,666	12,848,562	2,380,171	10,046,560
Relocation	1,559,825	2,229,821	314,213	602,393	274,621	657,063
Formal Contracts	65,868,978	106,730,709	77,931,012	126,625,560	79,189,680	153,459,095
Consultant Engineers	1,155,753	3,126,794	896,004	3,082,542	386,702	2,915,519
Total	78,965,218	130,633,067	83,176,895	143,195,057	82,231,174	167,078,237





TABLE 24. COSTS OF INDIANA INTERSTATE ROUTES

Route	Description	Date Completed	Length (Miles)	Date First Road Contract Awarded	Date Last Road Contract Awarded	Date Last Road Contract Completed	Date Last Project Opened to Traffic	Road and Bridge Construction Cost (Dollars)	Preliminary Engineering Cost (Dollars)	Right-of-Way Costs (Dollars)	Railroad Adjustments (Dollars)	Utility Adjustments (Dollars)	Signing (Dollars)	Other	Total Cost (Dollars)	Average Cost Per Mile (Dollars Per Mile)
I-64	All	3/31/73	124.0	12/15/60											\$189,240,514	
I-65N	College Ave. in Indiana-Toll Road	12/71	148.1	5/15/58	4/24/70	12/18/71	1/21/71	\$165,350,800	\$5,804,600	\$27,976,000	\$772,000	\$2,017,100			\$201,500,700	a
I-65S	Ohio River to College Ave.	6/30/72	114.0	8/18/58	10/28/70	8/18/72	6/30/72	\$146,465,200	\$8,097,200	\$44,096,395	\$271,600	\$6,503,350		\$55,270,820	\$599,015	b
I-69	Interstate 465 to Indiana-Michigan State Line	6/30/71	157.8	7/18/60	9/3/69	12/21/71	11/16/71	\$104,966,277	\$4,817,324	\$12,047,529	\$307,126	\$1,360,544			\$123,398,800	\$781,474
I-70	Ohio-Indiana State Line to 3100 and Illinois-Indiana State Line to I-465 W. Leg	6/71	140.0	7/3/59	6/19/67	7/22/70	10/21/69	\$105,009,315	\$4,118,040	\$10,043,009					\$121,041,746	\$864,594 c
I-74	All	6/71	154.1	7/3/59				\$125,440,878	\$6,457,905	\$32,576,826	\$96,894	\$2,482,415		\$44,933,167	\$119,853	
I-80-94	All	6/30/71	151.3	7/29/58	7/25/65	11/9/67	8/31/67	\$95,059,225	\$3,554,996	\$9,324,475	\$34,561	\$764,084			\$106,737,341	\$717,265
I-94	Indiana Toll Road to the Indiana-Michigan Border	11/72	29.7	10/10/67	4/13/71	1/73	11/2/72	\$50,689,300	\$1,844,200	\$7,308,200	\$116,050	\$1,365,000			\$61,322,750	\$2,064,739 d
I-164	All		14.3													
I-265	All		6.7	6/16/72												
I-275	Ohio River to U.S. 50		3.3	10/18/72												
I-465	All	10/70	56.8	8/7/59	10/15/68	10/22/70	10/5/70	\$87,379,300	\$3,186,400	\$20,757,800		\$2,928,000	\$569,800		\$115,221,500	\$2,028,548
I-465	All	3/30/73	57.8	8/7/59	10/15/68	10/22/70	10/5/70	\$91,694,928	\$4,601,305	\$19,995,379	\$177,256	\$2,537,255		\$17,110,023,241		

aConstruction includes \$1,162,297 for roadside development not yet constructed and \$129,536 from Beautification Funds.

bDates for section from Ohio River to South Leg of Interstate 465.

cDates outside Interstate 465.

dConstruction cost includes \$202,000 for one weight station and \$541,000 for one rest park not yet constructed.



more accurate picture of the funds which Indiana needs from all sources to complete the System.

Indiana spent roughly \$70 million on the Interstate System in fiscal year 1973. According to the biennial highway program from July 1, 1973, to June 30, 1975, expenditures on the Interstate System will amount to \$115 million for fiscal years 1974 and 1975 or roughly one-third of the \$353 million two-year highway program.

### Funding

This subchapter dicusses the basic relationship between revenues, expenditures, and the estimated costs to complete the System. This subchapter also describes the utilization of funds in Indiana.

### Authorizations and Apportionments

The Federal Aid Highway Act of 1956 authorized the expenditure of \$24,825 million on the System for fiscal years 1957 through 1969. Including the \$175 million authorized for fiscal year 1957 by the Federal Aid Highway Act of 1954, Congress provided \$25,000 million for the Interstate System over a thirteen-year period. This amount equaled the Federal share of the total cost of the System as reported in A 10-Year National Highway Program. Because the States had not obligated \$140 million of the funds authorized for the System in fiscal years 1954 through 1956, \$25,140 million in authorizations was available for expenditure on the System after June 30, 1956. [Refer to Table 25 , p. 787 ].

In 1956, Congress had anticipated that revenues from highway user taxes would follow a straight line growth pattern. On the other hand, expenditures on the Interstate Program were expected to gradually increase in the early year, to reach a high in the middle years, and to taper off







in the latter years. Consequently, expenditures would exceed revenues in the early and middle years of the Program, but would fall below revenues in the latter years of the Program. In the long run expenditures and revenues were forecasted to balance.

To overcome the expenditure deficits in the early and middle years of the Program, temporary loans were permitted from the Treasury. However, the addition of the Byrd Amendment which required the Program to operate on a pay-as-you-go basis within each year nullified the loan provision of the 1956 Act.

Federal Aid Highway Act of 1958. In 1957, several members of Congress recognized that an annual imbalance of receipts and expenditures would create a financial problem. Interstate apportionments for fiscal years 1957 through 1959 could be made as planned. However, the authorizations for fiscal years 1960 through 1967 would have to be reduced from \$2.2 billion to \$1.5 billion annually to maintain revenues and expenditures in balance on an annual basis. This adjustment would defer the expenditure of \$5.6 billion of the authorizations until the latter part of the Program.

The Interstate financing problem was further compounded by an increase in the total cost of the System. On the basis of the adjusted 1958 estimate of the total cost of the System, additional Federal authorizations of \$11,860 million were needed to complete the System. [Refer to Table 26 , p.789]. Since the 1956 Act apportioned funds for only fiscal years 1957 through 1959, additional apportionments amounting to \$31,985 million were needed for the fiscal years following 1959 to complete the System.

Federal Aid Highway Act of 1959. In 1958, the United States suffered an economic recession. To hasten economic recovery and to accelerate progress on the System, Congress increased the annual authorizations for the Interstate from \$2.0 billion to \$2.2 billion for fiscal year 1959 and





TABLE 26. STATUS OF FINANCING FEDERAL SHARE OF COST TO COMPLETE THE INTERSTATE SYSTEM<sup>a</sup>

(MILLIONS OF DOLLARS)

	Year of Interstate Cost Estimate									
	1958	ADJUSTED 1958	1961	1965	1968	1970	1972	1974		
Federal Share of Estimated Total Cost of the System (Total Needed Federal Aid Interstate Authorizations)	33,952 <sup>a</sup>	37,000	37,000	42,000	50,640	62,500	68,260			
Total Authorizations Under Existing Legislation	25,000 <sup>b</sup>	25,140	25,440	37,000	42,300	50,640	60,503			
Additional Federal Authorizations Needed to Complete	8,952	11,860	11,560	5,000	8,340	11,860	7,757			
Federal Share of Estimated Total Cost of the System (Total Needed Federal Aid Interstate Apportionments)	33,952	37,000	37,000	42,000	50,640	62,500	68,260			
Total Apportionments through Fiscal Year following Year of Interstate Cost Estimate	4,875 <sup>c</sup>	5,015	11,715	22,215	32,415	40,415	48,503			
Required for Fiscal Years beginning Second Year After Year of Interstate Cost Estimate	29,077	31,985	25,285	19,785	18,225	22,085	19,757			

<sup>a</sup> Based on cost estimate for 38,548 miles.

<sup>b</sup> Ignored balance of authorizations for fiscal years prior to 1957. (\$140 million)

<sup>c</sup> Ignored balance of apportionments under 1952 and 1954 Federal Aid Highway Acts.



from \$2.2 billion to \$2.5 billion for fiscal years 1960 and 1961 in the Federal Aid Highway Act of 1958. This Act also suspended the pay-as-you-go provision of the 1956 Act for fiscal years 1959 and 1960.

In recognition of the increased cost of the System and the economic recession, Congress increased total Interstate authorizations by \$800 million. Unfortunately, the 1958 Act contained no provision to increase revenue. The end result of the 1958 Act was to advance the time when expenditures would exceed revenues. Based on revenue forecasts, no Interstate apportionment could be made for fiscal year 1961, and only \$500 million could be apportioned for fiscal year 1962. The expenditure deficit could be overcome by a 1.5 cent increase in fuel taxes according to Congressional reports.

In 1959, Congress increased fuel taxes from three cents to four cents per gallon between October 1, 1959 and July 1, 1961. After June 30, 1961, the increase in fuel tax was to be replaced until June 30, 1964 by a transfer to the Trust Fund of the remaining half of the existing ten percent excise tax on new vehicles and the remaining five-eighths of the existing eight percent excise tax on motor vehicle parts and accessories.

In the Federal Aid Highway Act of 1959, Congress also reduced the authorization for fiscal year 1961 from \$2.5 billion to \$2.0 billion to prevent a deficit in the Trust Fund. However, when the apportionment for fiscal year 1961 was announced on October 8, 1959, the amount was reduced to \$1.8 billion because of the pay-as-you-go provision. This proved to be the only time in the Interstate Program that apportionments did not equal authorizations by Congress because of a lack of revenue in the Highway Trust Fund.



Since 1959, the Bureau of Public Roads has established a quarterly rate at which each State can obligate funds except as outlined on page 794. This measure was implemented to assure a balance of expenditures and receipts in the Trust Fund.

Federal Aid Highway Act of 1961. The Act of 1959 averted the future imbalance of revenues and expenditures; however, authorizations remained far below that needed to complete the System. Through the imposition of strict guidelines on Interstate fund participation, the Bureau of Public Roads held the total cost of the System constant between the 1958 and 1961 Interstate Cost Estimates. According to the 1961 Interstate Cost Estimate, additional Federal authorizations of \$11,560 million were needed to complete the System. For the fiscal years following 1962, \$25,285 million would have to be apportioned to complete the System.

The Federal Aid Highway Act of 1961 provided \$11,560 million in additional authorizations, matching the needs as reported in the 1961 Interstate Cost Estimate. Although the completion date for the System was not extended from June 30, 1969, to June 30, 1971 until the Federal Aid Highway Act of 1964, the 1961 Act provided authorizations for fiscal years 1970 and 1971.

To match the increase in the level of expenditures, the 1961 Act also increased revenues for the Trust Fund. The four cent fuel tax was extended until October 1, 1972. For the same period, the tax was increased on tires from eight to ten cents per pound, on inner tubes from nine to ten cents per pound, and on retread rubber from three to five cents per pound. All of the ten percent excise tax on new trucks and buses was earmarked for the Trust Fund. The tax on heavy vehicles was increased from \$1.50 to \$3.00 for every 1,000 pounds over 26,000 pounds. As a compensation to the user for these extra taxes, the excise taxes on automobiles, parts, and accessories was to terminate July 1, 1964 instead of June 30, 1971.



This Act provided the authorizations and revenues needed to complete the System according to the 1961 Interstate Cost Estimate.

Federal Aid Highway Act of 1965. In January of 1965 a new estimate of the total cost of the System revealed an increase in the Federal portion of the cost from \$37,000 million to \$42,000 million. Under existing legislation, the total Interstate authorizations amounted to only \$37,000 million. Due to the increase in the cost of the System, apportionments amounting to \$19,785 million would be needed for the fiscal years, following 1966.

In passing the Act of 1965, Congress only increased the authorization for fiscal year 1967 from \$2.9 billion to \$3.0 billion. About \$4.9 billion in authorizations, however, was still needed to complete the System. The Act also apportioned \$3.0 billion for fiscal year 1967. However, apportionments amounting to \$16,785 million were still needed for the remaining four fiscal years of the Program.

Federal Aid Highway Act of 1966. The 1966 Act again brought expenditures in line with the total cost of the System. In fact, \$300 million in authorizations was provided in excess of the \$42,000 million needed to complete the System. This Act extended the completion date from the System from June 30, 1971 to June 30, 1972, and apportioned \$7,200 million in Interstate funds for fiscal years 1968 and 1969.

Federal Aid Highway Act of 1968. According to the 1968 Interstate Cost Estimate, additional authorizations amounting to \$8,340 million were needed to offset the increased cost of the System. The 1968 Act authorized an increase in funds that matched the estimated total cost of the System.

In providing the additional funding, the completion date for the System was changed from June 30, 1972 to June 30, 1974.





Federal Aid Highway Act of 1970. In January of 1972, Congress was informed that the total cost of the System had increased by \$11,860 million. The 1970 Act provided \$9,863 million in additional authorizations bringing the total Interstate authorizations to \$60,503 million. However, \$1,997 million in authorizations was still needed to complete the System. The 1970 Act also extended the completion date for the System from June 30, 1974 to June 30, 1976 and the life of the Trust Fund from October 1, 1972 to October 1, 1977.

Future Legislation. The total Federal cost of the Interstate System increased to \$68,260 million according to the 1972 Interstate Cost Estimate. This meant that an additional \$7,757 million in authorizations was needed to complete the System. Apportionments amounting to \$19,757 million were also needed for the fiscal years following 1973.

As proposed by Senate Bill 502, the Federal Aid Highway Act of 1973 would provide \$8,000 million in additional authorizations for the System. Since the total authorizations under this proposed legislation would amount to \$68,503 million, the legislation would provide \$243 million over the 1972 estimate of the total Federal Cost of the System. Senate Bill 502 would reduce the authorizations for fiscal years 1974 through 1976 from \$4.0 billion to \$3.5 billion and would provide an additional \$3.5 billion for fiscal year 1977, an additional \$3.5 billion for fiscal year 1978, and an additional \$2.5 billion for fiscal year 1979. In effect, the proposed Act would extend the completion date of the System from June 30, 1976, to June 30, 1979. Adequate revenue to match the proposed level of expenditure does not appear to be a problem if the life of the Trust Fund is also extended.

As a note of interest, the Interim Federal Aid Highway Act of 1973 (which passed on June 28, 1973) expanded total Interstate authorizations to \$66,853 million. These authorizations



fell \$1,407 million short of the funds needed to complete the System according to the 1972 Interstate Cost Estimate.

#### Utilization of Funds

Table 27 (p. 795) documents the basic relationship between apportionments by Congress, obligations by the States, expenditures by the Nation, and revenues in the Federal Highway Trust Fund. The cumulative apportionments for the Interstate System by Congress appear in Table 29, p. 799. Since the estimated total cost of the System in 1972 was \$68,260 million, apportionments amounting to \$19,757 million are needed to complete the System for the fiscal years following 1973. The Interim Federal Aid Highway Act of 1973 provided only \$1,000 million in additional apportionments for fiscal year 1974. Consequently, \$18,757 million are still needed for the fiscal years after 1974.

A graphical illustration of Federal aid financing appears in Figure 125, p. 797. Since 1959, the Bureau of Public Roads has limited the amount of apportionments that a State may obligate. This policy was exercised to keep expenditures below receipts in the Trust Fund.

Since October 31, 1966, the U.S. Bureau of Budget (U.S. Office of Management and Budget) has withheld a segment of the Federal highway apportionments in an attempt to regulate the economy through Federal expenditures. On that date, all unobligated highway program funds were frozen. Overall highway program funds amounting to \$107 million for Indiana were frozen. Roughly twenty percent of the appropriations have been withheld from obligations each fiscal year. However, the withheld funds have always been released for obligation before they lapsed except in 1970.

The fiscal year 1970 funds that lapsed were reappportioned for fiscal year 1973. [Funds are apportioned two years before the fiscal year for which they are authorized.



**TABLE 27. FEDERAL AID HIGHWAY APPORTIONMENTS  
FOR NATION<sup>12</sup>**

(MILLIONS OF DOLLARS)

Fiscal Year	Date Apportioned	Regular ABC	Rural Primary & Secondary	Topics	Other	Interstate	Total Apportioned	Obli-	Interstate Disburse-	Total Disburse-	Revenue Present Law	Balance in Trust Fund	Liability for Unpaid Obligations	Balance less Unpaid Obligations
<b>Actual Balance</b>	<b>6/30/54</b>	<b>1,533</b>			32	215	1,980	1,160	----	----	----	----	----	----
1957	7/1/54	125			4	1,000	1,129	2,227	208	366	1,482	516	4,441	-1,111
1958	7/1/55	250			9	1,700	2,559	2,245	575	1,511	2,044	1,049	3,855	-2,816
1959	8/1/57	295			503	2,200	3,578	3,509	1,501	2,613	2,087	522	7,711	-4,228
1960	5/1/53	401			6	2,500	3,406	2,810	1,861	3,340	2,534	119	4,441	-4,322
1961	11/9/54	374			4	1,800	2,678	3,187	1,719	5,114	2,792	239	4,782	-4,543
1962	2/1/50	374			9	2,200	3,083	3,084	1,914	2,784	2,956	471	5,239	-4,768
1963	7/17/51	925			4	2,400	3,329	3,927	2,109	3,017	3,293	747	6,147	-5,402
1964	3/21/52	750			24	2,600	3,574	4,165	2,635	3,445	3,511	141	6,669	-5,918
1965	7/2/53	775			82	2,700	3,757	4,022	3,016	4,026	3,670	385	5,765	-4,990
1966	3/12/54	1,000			23	2,800	3,823	4,048	2,378	3,965	3,924	244	6,748	-5,744
1967	8/30/59	1,050			30	3,000	4,030	3,782	2,276	3,774	4,455	725	6,556	-5,531
1968	10/7/66	1,000			30	3,400	4,430	4,232	3,207	4,171	4,428	382	6,617	-5,635
1969	8/21/57	1,000			30	3,800	4,830	4,658	3,143	4,151	4,690	1,521	7,124	-5,603
1970 <sup>a</sup>	10/31/68	1,100	125	200	130	4,000	5,255	4,789	3,289	4,378	5,459	2,612	7,535	-4,123
1971 <sup>a</sup>	12/15/68	1,100	125	200	130	4,000	5,555	4,562	3,456	4,585	5,725	3,152	7,512	-3,850
1972 <sup>b</sup>	12/31/70	1,100	125	100	149	4,044	5,618	5,096	3,454	4,630	5,509	4,400	7,918	-3,428
1973 <sup>c</sup>	12/31/70	1,100	125	100	149	4,044	5,618	5,096	3,454	4,630	5,509	4,400	7,918	-3,428
<b>Estimate</b>							5,618	4,600	3,370	4,934	5,751	5,402	7,579	-4,577
1974 <sup>b</sup>		1,100	125	100	149	4,000	6,174	4,600	3,004	4,711	6,041	6,732	7,548	-836
1975 <sup>b</sup>		1,100	125	100	140	4,000	6,165	6,107	3,143	5,147	6,429	4,014	8,548	-514
1976 <sup>b</sup>		1,100	125	100	140	4,000	6,165	5,965	3,746	5,670	6,613	2,957	8,823	134
1977 <sup>b</sup>		1,100	125	100	140		2,165	5,003	3,767	5,700	6,880	10,137	8,126	2,011
1978 <sup>b,c</sup>		1,100	125	100	140		2,165	3,038	5,356	11,164	2,152	1,125	-----	1,125
<b>Total</b>		<b>22,881</b>	<b>1,125</b>	<b>3,200</b>	<b>1,100</b>	<b>2,057</b>	<b>60,503</b>	<b>91,366</b>	<b>60,503</b>	<b>21,366</b>	<b>92,491</b>	<b>-----</b>	<b>-----</b>	<b>-----</b>

<sup>a</sup>Unpaid balance of prior authorizations.

<sup>b</sup>Includes transfer to Right of Way Revolving Fund.

<sup>c</sup>Considers complete disbursement of all funds authorized for 1973 and prior fiscal years.



TABLE 28. INTERSTATE FUNDS APPORTIONED TO THE NATION

(MILLIONS OF DOLLARS)

Fiscal Year	Federal Act	Date Apportioned	Matching Basis (Fed.-State)	Amount Apportioned	Cumulative Apportionments
1954	1952	10-30-52	50-50	25	25
1955	1952	12-23-52	50-50	25	50
1956	1954	6-21-54	60-40	175	225
1957	1954	8-09-55	60-40	175	400
Unpaid Balance of Prior Authorizations					
	as of	6-30-56		315	315
1957	1956	6-29-56	90-10	1,000	1,315
1958	1956	8-01-56	90-10	1,700	3,015
1959	1956	8-01-57	90-10	2,000	5,015
1959	1958	4-16-58	90-10	200	5,215
1960	1958	7-21-58	90-10	2,500	7,715
1961	1961	10-08-59	90-10	1,800	9,515
1962	1961	<del>7-22-60</del> 12-30-60	90-10	2,200	11,715
1963	1961	8-17-61	90-10	2,400	14,115
1964	1961	11-28-62	90-10	2,600	16,715
1965	1961	7-08-63	90-10	2,700	19,415
1966	1961	8-18-64	90-10	2,800	22,215
1967	1965	8-30-65	90-10	3,000	25,215
1968	1966	10-07-66	90-10	3,400	28,615
1969	1966	11-29-67	90-10	3,800	32,415
1970	1968	10-31-68	90-10	4,000	36,415
1971	1968	12-15-69	90-10	4,000	40,415
1972	1970	12-31-70	90-10	4,044	44,459
1973	1970	<del>12-31-70</del> 11-01-71	90-10	4,044	48,503
1974	1973	7-11-73	90-10	1,000	49,503





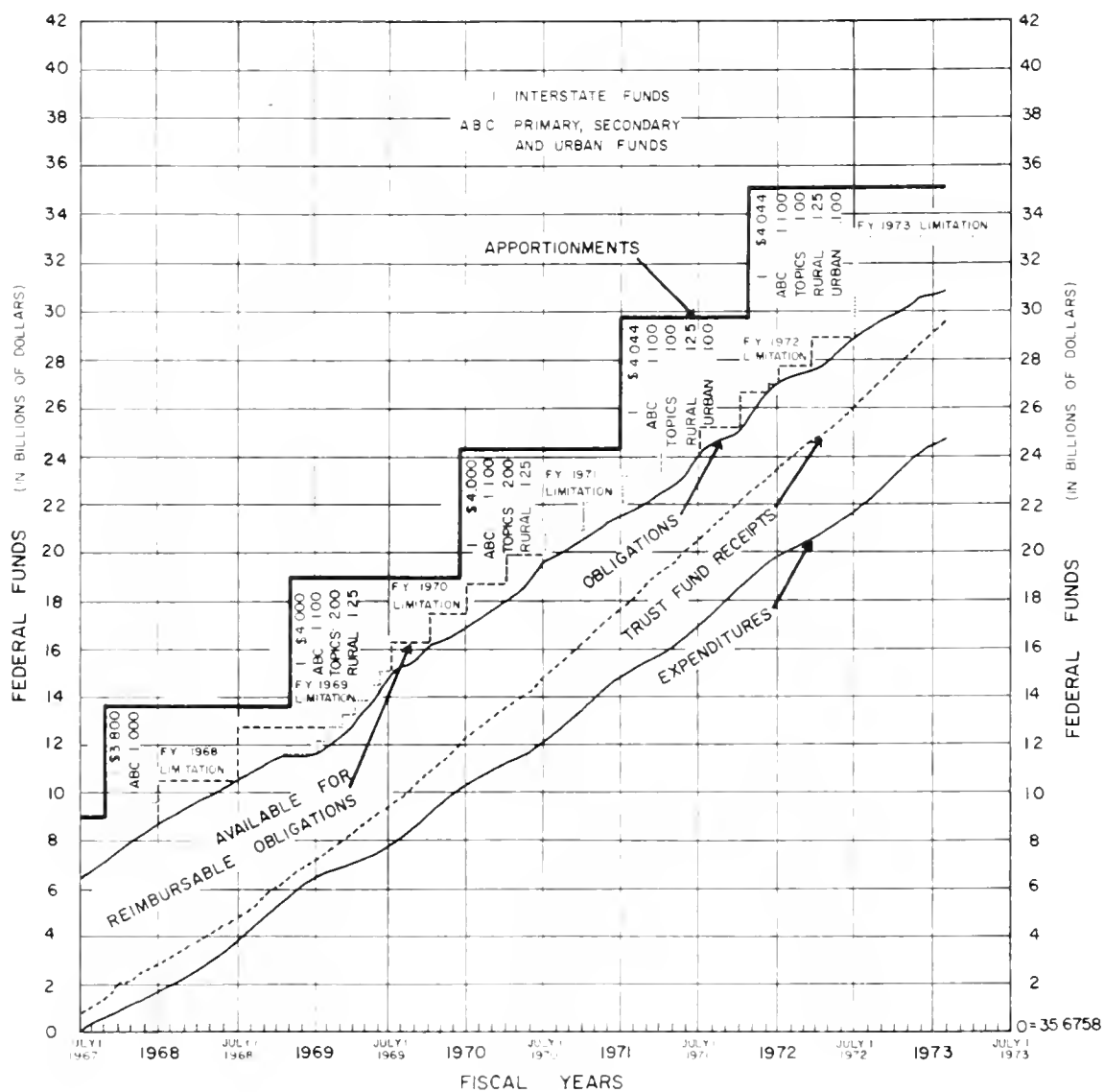


FIGURE 125. FEDERAL AID HIGHWAY PROGRAM FINANCING <sup>13</sup>



If funds are not obligated by project agreement by the end of the second fiscal year following the year for which they were authorized, they lapse and are reapportioned.] Consequently, highway funds have not been withheld on a permanent basis.

Because funds have been withheld on an overall program basis rather than on a system basis, the Indiana State Highway Commission has been able to obligate all but a fraction of its full Interstate apportionment. Any State could obligate funds in any amount below its apportionments for each program provided that the total obligations for all highway system programs did not exceed the overall highway program obligation limitation. Because funds were not withheld on a system basis, the effect of withholding on the Indiana Interstate program is unknown.

Because expenditures on the Interstate System in Indiana had reached a peak just prior to the initiation of withholding and because the amount of funds withheld was based on a percentage of the previous fiscal year's expenditures, Indiana did not feel the funding squeeze for several years. However, when fiscal year Interstate apportionments to Indiana were reduced from \$55 million to \$39 million, Indiana experienced the funding squeeze. The withholding of funds then aggravated the situation.

The cumulative Interstate apportionments for Indiana appear in Table 29, p. 799. Based on the 1972 estimate of the total Federal cost of the System in Indiana, Indiana needs additional apportionments amounting to \$215.6 million for the fiscal years following 1973 to complete the System. Indiana must provide \$19.4 million in State matching funds.

On the basis of the 1974 estimate of the total Federal cost of the System, Indiana needs additional Federal apportionments amounting to \$259.5 million for the fiscal years following 1973. Since the Interim 1973 Highway Act apportioned \$11,636,625 to Indiana for fiscal year 1974, the State still needs \$247.8 million in Interstate apportionments to complete the System.



TABLE 29. INTERSTATE FUNDS APPORTIONED TO  
THE STATE OF INDIANA BY LAW

Fiscal Year	Federal Act	Date Apportioned	Matching Basis	Amount <sup>a,b</sup> Apportioned	Cumulative <sup>a,b</sup> Apportionment
1954	1952	10-30-52	50-50	\$595,500.00	\$595,500.00
1955	1952	12-23-52	50-50	596,664.00	1,192,164.00
1956	1954	6-21-54	60-40	4,219,185.00	5,411,349.00
1957	1954	8-09-55	60-40	4,222,758.00	9,634,107.00
	1956	6-29-56	90-10	24,326,684.00	33,960,791.00
1958	1956	8-01-56	90-10	41,355,363.00	75,316,154.00
1959	1956	8-01-57	90-10	48,331,490.00	123,647,644.00
	1958	4-16-58	90-10	4,857,436.00	128,505,080.00
1960	1958	7-21-58	90-10	71,739,500.00	200,244,580.00
1961	1961	10-08-59	90-10	51,392,880.00	251,637,460.00
1962	1961	7-22-60 12-30-60	90-10	62,456,625.00	314,094,085.00
1963	1961	8-17-61	90-10	59,273,700.00	373,367,785.00
1964	1961	11-28-62	90-10	64,213,175.00	437,580,960.00
1965	1961	7-08-63	90-10	66,345,277.00	503,926,237.00
1966	1961	8-18-64	90-10	69,152,650.00	573,078,887.00
1967	1965	8-30-65	90-10	64,950,900.00	638,029,787.00
1968	1966	10-07-66	90-10	73,909,948.00	711,939,735.00
1969	1966	11-29-67	90-10	82,479,950.00	794,419,685.00
1970	1968	10-31-68	90-10	76,711,800.00	871,131,485.00
1970	1968	Lapsed 1970 Wash. D.C. Funds			952,368.00
1971	1968	12-15-69	90-10	76,322,400.00	946,501,517.00
1972	1970	12-31-70	90-10	55,272,000.00	1,001,773,517.00
1973	1970	12-31-70 11-01-71 (Rev.)	90-10	55,272,000.00	1,057,045,517.00
Estimate:					
1974-75				39,000,000.00	
1976-79				35,000,000.00	

<sup>a</sup>Federal administrative markdown already excluded.

<sup>b</sup>Highway Planning and Research Funds included.



Table 30 (p. 801) documents the status of Federal Aid Highway Program financing in Indiana. The actual apportionments by law exclude the Federal markdown for administration of the highway program. A graphical illustration of the Federal funds apportioned, released, obligated and collected in Indiana appears in Figure 126 (p. 802) on an annual basis and in Figure 127 (p.803) on an annual cumulative basis.

The utilization of Interstate funds by Indiana is recorded in Table 31 (p. 804). Prior to 1957, the Indiana State Highway Department lacked sufficient funds to match the Federal Interstate funds available. After the fuel tax in Indiana was increased from four to six cents per gallon in the spring of 1957, the State had sufficient matching funds. However, the level of operations was not initially adequate to eliminate the backlog of unobligated funds. As the Interstate Program began to gain momentum in Indiana, the State obligated a greater amount of the Federal funds released for obligation. In June of 1961, Indiana started to eliminate the backlog of unobligated funds. Since January of 1971, Indiana has ranked third among the States in terms of funds obligated.

Based on the 1972 Interstate Cost Estimate (which included \$33,475,000 in non-Interstate funds), Indiana needs to obligate approximately \$310 million in State and Federal funds to complete the System. [Refer to Table 32 , p. 805 ]. On the basis of the 1974 Interstate Cost Estimate (which includes \$65,604,000 is non-Interstate funds) Indiana needs to obligate \$382 million in State and Federal Funds to complete the System as of February 28, 1973. [Refer to Table 33, p. 805].

Considering the total cost of the System on the basis of the 1972 Interstate Cost Estimate, the System was 78.7 percent complete in terms of cost on February 28, 1973. Excluding the cost to be financed with other than Interstate





TABLE 30. FEDERAL HIGHWAY PROGRAM FINANCING IN INDIANA

Fiscal Year Received	Actual			Release Of Apportionments	Federal Funds Obligated		Federal Funds Collected	
	Fiscal Year Authorized	All Highway Programs	Interstate		All Highway Programs	Interstate	All Highway Programs	Interstate
1952	1954	13,673,545	595,500					
1953	1954	13,712,021	596,664					
1954	1956	21,035,778	4,213,185					553,816
1955	1957	48,355,134	28,549,442					458,417
1956	1958	61,702,092	41,355,363					59,990
1957	1959	83,501,692	53,188,926					2,010,582
1958	1966	93,181,726	71,739,500					413,624
1959	1961	73,122,394	51,392,880				43,331,810	15,058,543
1960	1962	83,853,125	62,456,625				125,860	46,072,013
1961	1963	74,924,804	54,273,700				83,676,670	52,373,438
1962	1964	86,166,719	64,213,175		78,190,156	55,583,580	67,523,088	42,256,634
1963	1965	88,614,025	66,445,277		104,474,342	87,599,724	73,157,660	46,955,487
1964	1966	91,686,347	69,152,650		104,292,063	67,869,003	84,761,130	65,474,032
1965	1967	87,477,466	64,950,900		70,329,745	51,602,479	92,817,503	70,514,838
1966	1968	36,418,521	72,801,297 <sup>b</sup>	135,569,500	135,569,500	113,210,111	89,667,260	66,379,951
1967	1969	104,924,330	81,242,751 <sup>b</sup>	95,593,523	95,593,525	74,136,132	44,639,260	73,730,467
1968	1970	108,391,603	75,561,124 <sup>b</sup>	126,143,436	125,354,555	100,453,701	113,323,600	90,899,627
1969	1971	107,831,427	75,117,564 <sup>b</sup>	105,510,000	105,300,671	85,725,623	141,360,300	111,206,490
1970	1972	86,310,164	54,442,920 <sup>b</sup>	97,854,000	96,769,799	75,397,048	98,739,993	73,851,134
1971	1973	87,472,286	54,442,920 <sup>b</sup>	87,126,000	87,425,231	58,321,728	102,415,072	78,515,664
1972	1974	72,175,160	40,838,000 <sup>b,c</sup>		91,300,671	45,334,100	104,805,496	79,909,685
1973	1975							
1974	1976							
1975	1977							

<sup>a</sup>Federal Highway Trust Fund Monies only.<sup>b</sup>Excludes Highway Planning and Research Funds at 1.5% of total apportionment.<sup>c</sup>Estimate.



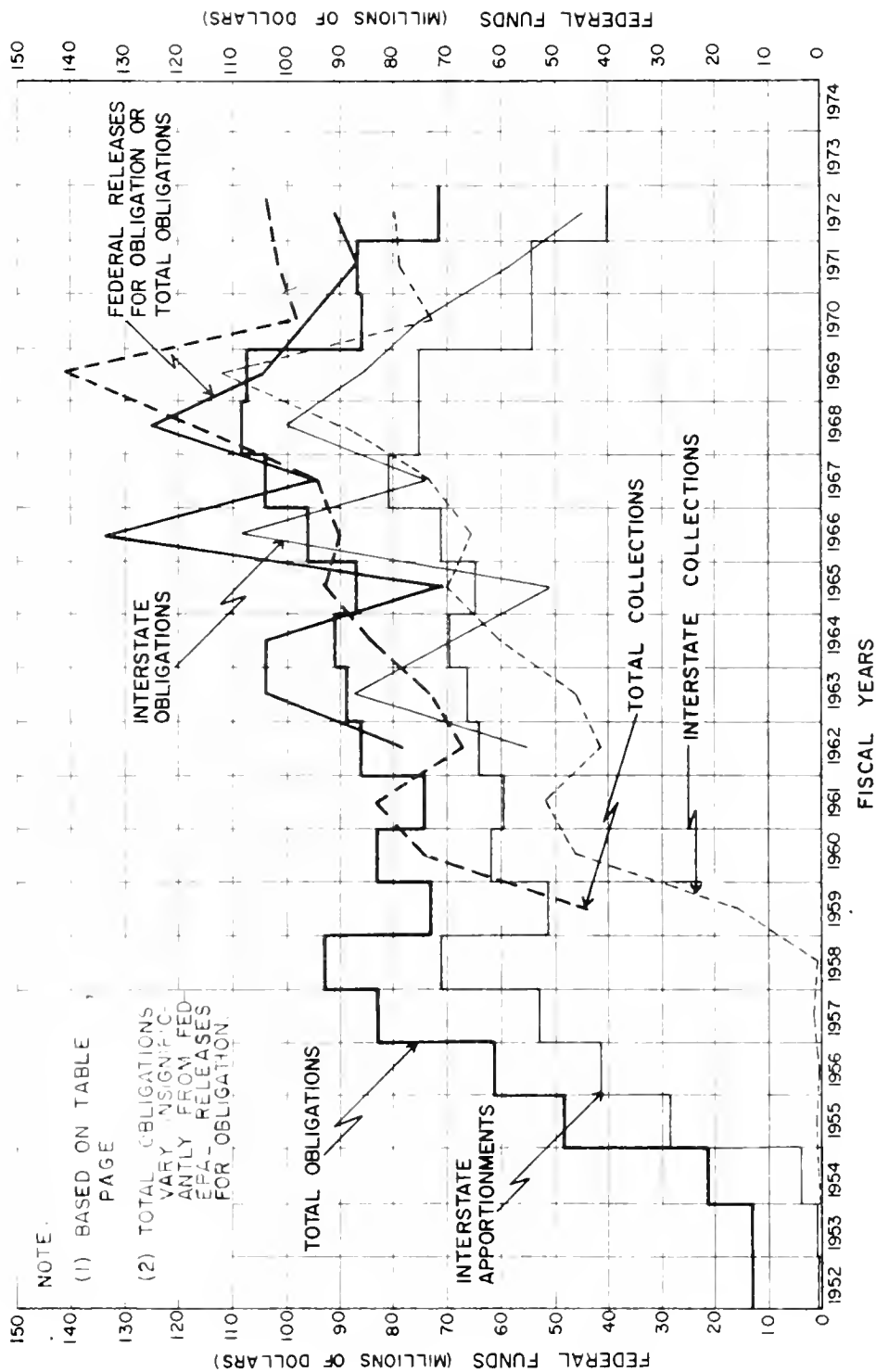
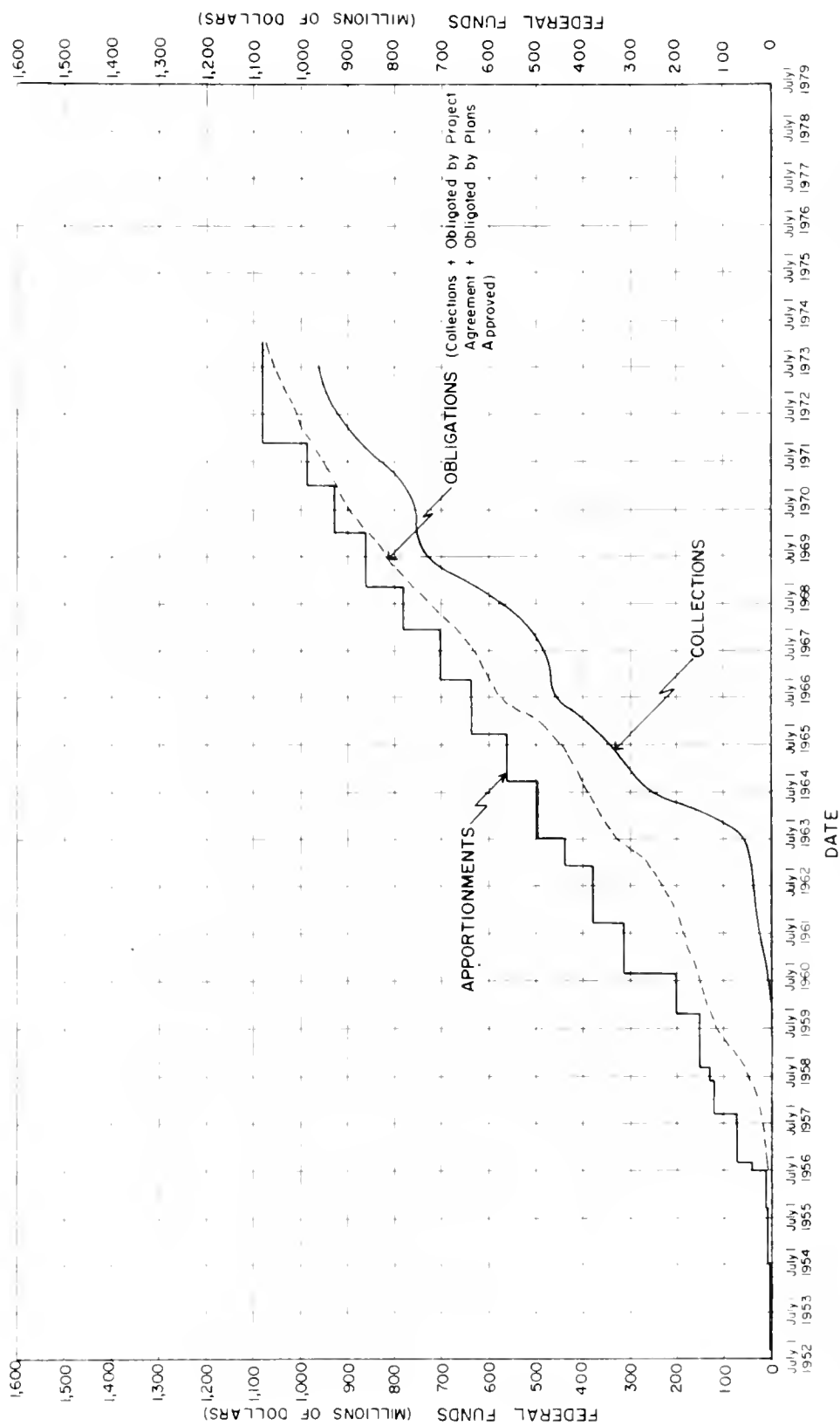


FIGURE 126. INTERSTATE FEDERAL AID FINANCING: APPORTIONMENTS, RELEASES, OBLIGATIONS, AND COLLECTIONS IN INDIANA ON A FISCAL YEAR BASIS





**FIGURE 127. INTERSTATE FEDERAL AID FINANCING: APPORTIONMENTS, OBLIGATIONS, AND COLLECTIONS IN INDIANA ON A CUMULATIVE BASIS**



TABLE 31. STATUS OF INTERSTATE FUNDS IN INDIANA<sup>14</sup>

(DOLLARS)

	53	54	55	56	57	58	59
Total Apportionment to June 30, 19--	595,000.00	1,192,164.00	5,411,349.00	33,950,221.00	75,316,154.00	128,505,080.00	200,244,580.00
Collected by Final Voucher	----	----	----	----	----	240,433.55	1,473,358.28
Obligated by Project Agreement	----	1,174,283.00	1,192,164.00	1,192,164.00	3,991,666.00	11,165,879.00	62,922,357.42
Obligated by Plans Approved	----	----	----	28,660.00	12,021,090.00	34,042,996.00	50,319,441.00
Obligated by Program Approved	8,392.00	17,381.00	63,287.00	2,471,428.00	356,013.00	36,075,729.00	36,653,331.50
Less Totals Collected and Obligated	8,392.00	1,192,164.00	1,255,451.00	3,691,652.00	16,377,669.00	81,515,377.00	151,388,488.20
Total Federal Funds Available	586,568.00	0	4,155,898.00	30,269,139.00	58,938,485.00	46,489,142.45	48,876,091.80

	60	61	62	63	64	65	66
Total Apportionment to June 30, 19--	251,637,460.00	314,074,085.00	373,367,785.00	437,580,960.00	494,292,130.00	563,444,790.00	638,029,787.00
Collected by Final Voucher	4,849,762.17	19,114,279.64	37,282,855.63	94,569,533.45	262,904,513.33	344,880,138.96	410,601,067.47
Obligated by Project Agreement	109,447,300.46	147,205,210.80	171,887,623.79	207,143,602.02	57,916,552.42	53,124,842.11	81,662,916.95
Obligated by Plans Approved	38,322,433.00	20,234,398.00	30,274,823.00	61,729,888.00	49,384,084.58	58,597,354.17	75,521,413.00
Obligated by Program Approved	22,262,866.00	21,891,256.00	25,484,166.00	29,943,561.00	55,562,537.01	98,977,597.00	53,025,649.00
Less Totals Collected and Obligated	174,892,361.63	208,445,844.44	264,929,468.42	353,386,604.47	443,767,687.34	535,579,932.24	620,811,046.42
Total Federal Funds Available	76,745,098.37	105,648,240.56	108,448,316.58	84,194,355.53	50,524,442.66	27,864,847.76	17,218,740.58

	67	68	69	70	71	72
Total Apportionment to June 30, 19-- <sup>a</sup>	702,717,869	783,969,325	859,530,448	925,167,821	979,610,741	1,043,694,187
Collected by Final Voucher	480,364,575	567,766,862	688,704,370	753,022,075	831,537,739	920,861,000
Obligated by Project Agreement	112,319,505	128,069,247	104,777,520	113,085,073	95,652,266	71,182,960
Obligated by Plans Approved	44,059,464	32,367,136	29,446,978	22,628,945	19,867,816	9,937,833
Obligated by Program Approved	35,054,994	25,861,888	18,018,526	11,365,935	3,779,566	28,910,018
Less Totals Collected and Obligated	671,798,538	763,065,133	840,947,394	909,691,901	950,837,387	1,030,891,811
Total Federal Funds Available	30,919,331	20,904,192	18,583,054	25,065,793	28,773,354	12,802,376

<sup>a</sup> Highway Planning and Research Funds excluded for fiscal year 1967 and thereafter.





TABLE 32. ESTIMATE OF FUNDS REQUIRED TO COMPLETE THE INTERSTATE SYSTEM BASED ON THE 1972 INTERSTATE COST ESTIMATE

(DOLLARS)

Interstate	64	65	69	70	74	80	90	94	164	265	275	465	Totals
Estimated Cost to Complete as of 12-31-70	114,272,000	59,531,000	15,312,000	53,157,000	1,827,000	20,275,000	11,151,000	11,054,000	27,036,000	17,272,000	24,259,000	13,913,000	414,714,000
Less: Obligated Since 12-31-70	20,581,948	1,277,313	74,982	4,372,283	- 139,361	- 1,166,284	0	6,792,439	0	81,183	1,319,344	1,792,142	35,029,849
Balance Not Obligated as of 6-30-71	94,390,452	68,313,487	15,217,013	58,965,717	1,766,361	21,441,284	20,151,000	4,261,561	27,036,000	17,190,817	23,639,656	12,120,858	379,684,151
Less: Obligated Since 6-30-71	19,533,164	1,394,958	27,257	8,422,475	1,122,267	1,882,350	0	104,343	0	184,300	7,040	- 493,615	32,189,646
Balance Not Obligated as of 12-30-71	74,851,298	66,920,529	15,189,751	50,539,241	15,838,094	19,558,934	20,151,000	4,156,452	27,036,000	17,006,517	23,632,616	12,614,473	347,494,505
Less: Obligated Since 12-30-71	4,286,973	810,270	26,532	- 115,687	- 123,981	- 533,209	0	789,348	0	9,431,366	0	- 287,158	12,144,454
Balance Not Obligated as of 6-30-72	72,264,315	66,110,359	15,163,229	51,153,928	15,962,075	20,092,143	20,151,000	3,367,094	27,036,000	7,515,151	23,632,616	12,901,631	335,350,051
Less: Obligated Since 6-30-72	13,105,200	- 755,393	162,422	1,342,238	1,252,334	- 301,341	0	- 3,778	0	3,610,329	6,193,017	- 121,152	24,486,006
Balance Not Obligated as of 12-31-72	59,159,115	66,865,752	15,000,807	47,413,740	14,709,681	20,393,484	20,151,000	3,377,212	27,036,000	3,904,822	17,439,599	13,022,783	310,864,045
Less: Obligated Since 12-31-72	- 6,463,950	- 386,573	14,713	3,698,024	0	0	0	279,959	0	0	0	- 2,511	1,139,362
Balance Not Obligated as of 2-28-73	61,622,965	67,252,325	14,985,694	46,105,946	14,709,681	20,393,484	20,151,000	3,097,253	27,036,000	3,904,822	17,439,599	13,025,294	309,724,083

TABLE 33. ESTIMATE OF FUNDS REQUIRED TO COMPLETE THE INTERSTATE SYSTEM BASED ON THE 1974 INTERSTATE COST ESTIMATE

(DOLLARS)

Interstate	64	65	69	70	74	80	90	94	164	265	275	465	Totals
Estimated Cost to Complete as of 12-31-72	79,293,000	86,448,000	17,471,000	54,153,000	18,639,000	26,985,000	26,470,000	6,730,000	28,572,000	5,710,000	11,897,000	20,992,000	383,390,000
Less: Obligated Since 12-31-72	- 2,463,950	- 386,573	14,913	3,698,024	0	0	0	279,959	0	0	0	- 2,511	1,139,362
Balance Not Obligated as of 2-28-73	81,756,850	86,834,573	17,456,087	50,484,975	18,639,000	26,985,000	26,470,000	6,450,041	28,572,000	5,710,000	11,897,000	20,994,511	382,250,038



and State matching funds, Indiana needed \$276 million to complete the System. Consequently, the System was 80.6 percent complete in terms of Interstate and State matching funds obligated on February 28, 1973.

On the basis of the 1974 estimate of the total cost of the System, the System was 78.4 percent complete in terms of cost on February 28, 1973. Excluding the cost to be financed with other than Interstate and State matching funds, Indiana needs to obligate only \$317 million to complete the System. This implies that the System was 78.4 percent complete in terms of Interstate and State matching funds obligated on February 28, 1973.

Referring to Table 14 (p. 759), Indiana needed \$221,090,000 in Federal apportionments in the fiscal years following 1973 to complete the System. If Indiana is apportioned \$39 million for fiscal years 1974 and 1975 and \$35 million for the fiscal years thereafter, Indiana will not be able to complete the System until June 30, 1979.

Because the apportionment of funds is based on the cost to complete the System in each State and because Indiana has completed roughly seventy-five percent of the System in terms of cost, Indiana will continue to receive a decreasing amount of Interstate funds.

Indiana has to complete the most expensive and complicated portions of the System under the current and anticipated condition of low funding. Except for Interstate 64, these segments of the System are in urban areas. The financial squeeze is made burdensome by the fact that the allocation of funds to any one of the remaining portions requires a majority of the funds available in any one year. Because funds are released for obligation on a quarterly basis, there are insufficient funds to let a contract for an entire portion of an uncompleted route.

To cope with these current financial limitations, the Indiana State Highway Commission has reduced the size of



contracts on the uncompleted portions of the System. In effect, the construction time for the remainder of each route has been stretched. However, the State is able to utilize the limited amount of funds in this manner and is able to show progress on all of the remaining portions of the System yet to be completed.

### Interstate Work Load

Each Division of the Indiana State Highway Commission experienced a peak Interstate work load in accordance with the general development process. Because of the size of the Interstate Program and a lack of personnel, the State utilized consultants throughout the Program.

Prior to 1971, the personnel of the Planning Division devoted seventy-five to eighty percent of their time on the Interstate Program. In the case of road locations and surveys, sometimes all the work was on Interstate projects. Consultants selected and evaluated alternatives on a majority of the Interstate Routes. In many cases, the Planning Division developed and compared subalternatives on the basis of the general alternatives of the consultants.

Although the Interstate location function peaked in the early part of the Interstate Program, the coordination of the Interstate Program with local governments continued throughout the Program. This Division was responsible for access control resolutions, public hearings and initial participation in local highway coordinating committees. The division was also responsible for preparation of the series of Interstate Cost Estimates. Approximately every two years, the work load of one section of the Division temporarily shifted almost entirely to the preparation of a cost estimate. As of 1973, only Interstate 164 remains to be located.

Gauging the design work load in 1957, the Indiana State Highway Department recognized the need for consultants



to increase the momentum of the Program. Since 1958, consultants have performed most of the design work for the Interstate Program. Nevertheless, the members of the Design Division spent seventy percent of their time on the Interstate Program from 1962 to 1970.

The Division spent much of its time reviewing the work of consultants and coordinating the design with local governments and the Federal Highway Administration. The Interstate work load for the Division was at its peak from 1965 through 1967. In 1972, the Interstate Program accounted for less than thirty percent of the work load. The Interstate System as of 1973 has been completely designed with the exception of Interstate 164.

During the peak years of land acquisition for the System, the Division of Land Acquisition had as many as eighty-two staff appraisers and 126 fee appraisers. In 1972, the number of appraisers dropped to thirty on the staff and twenty-five to thirty consultants. Roughly sixty percent of the appraisals for land acquired for the System were performed by fee appraisers. However, all appraisals were reviewed in house except some appraisals of a nominal amount.

Since 1962, the Indiana State Highway Commission has provided relocation advisory services to families and businesses displaced by highway construction. Since April of 1967, Indiana has provided relocation payments. In Indianapolis, the Indianapolis Redevelopment Department and its subcontractors (Flanner House and Community Action Program Agency of Indianapolis) provided relocation advisory services for 1260 families. However, these agencies performed a referral function for the Indiana State Highway Commission. The State processed all relocation payments and never delegated its relocation responsibility to a local agency.





The peak years of land acquisition and relocation for the Interstate System spanned the period from 1962 through the first half of 1970. By July of 1972, all land had been acquired for the Interstate System except that for Interstate 164.

The work load of the Construction Division began its increase in 1958. However, there was no corresponding increase in personnel. The number of employees remained constant at the central office and only increased slightly at the district offices. Approximately sixty percent of the Division time in many of the years was spent on the Interstate Program. Construction on the System peaked in 1969 and fell below that of other systems in fiscal year 1972. Table 34 (p. 810) records the construction work load over time.

Because the Interstate System is very young compared to other systems, the Interstate maintenance work load has only recently begun to increase. The Interstate System however, will perhaps be the most expensive system to maintain because of the width of right-of-way, extensive landscaping and rest areas, numerous signs and markings, numerous structures, high types of pavements and shoulders, and heavy traffic loads.

The total number of employees of the Highway Commission increased during the early 60's (see Table 35 , p. 811 ), remained fairly constant from 1965 through 1968 and decreased in 1969 and 1970 to a lower level. This increased number of personnel to the level of 1964-1968 resulted from the demands of the Interstate Program. The reduction of 1969 and 1970, however, occurred during a period of still heavy Interstate activity in most Highway Divisions.

Although the Indiana State Highway Commission utilized consultants to perform much of the increased work load due to the Interstate Program, it also initiated many innovations to reduce the labor intensive work. These innovations



TABLE 34. TOTAL CONTRACTS LET AND AWARDED<sup>15</sup>

(MILLIONS OF DOLLARS)

Calendar Year	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972 est.
Total Contracts Let & Awarded For All Highway Programs	66.1	91.7	125.6	96.5	83.4	141.5	124.5	132.5	133.7	164.3	152.6	158.0
Total Contracts Let & Awarded For Four Year Period		379.9	Total <sup>a</sup>			481.9	Total			608.6	Total	
Increase in Total Contracts Let & Awarded Over Previous Four Year Period		29.9	Increase			102.0	Increase			126.7	Increase	

<sup>a</sup> 1957-1960

Est. 350 million

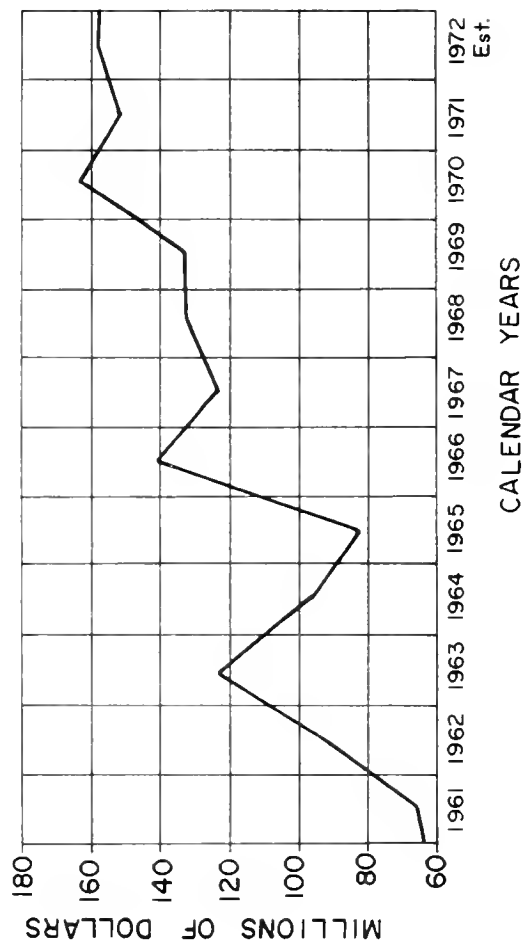


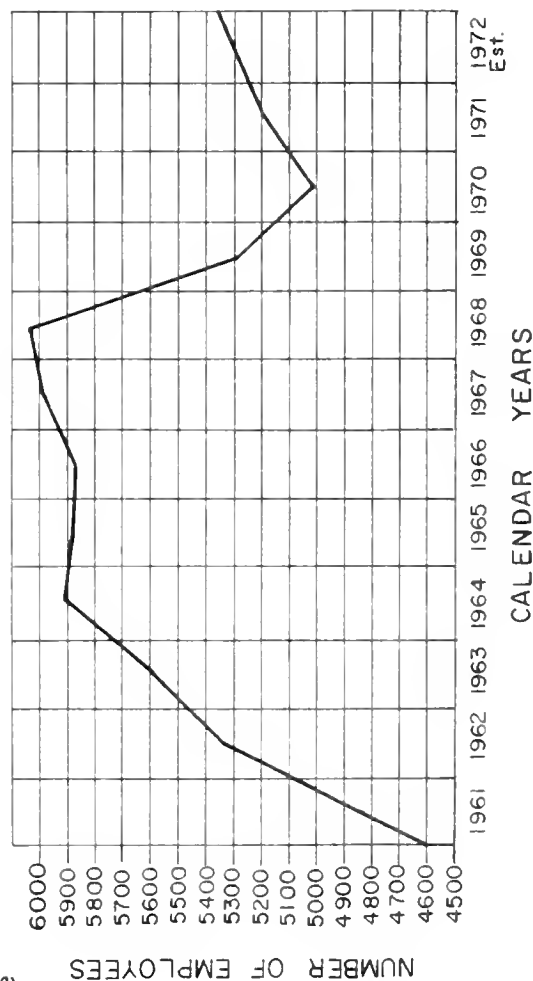


TABLE 35. AVERAGE NUMBER OF EMPLOYEES IN THE INDIANA STATE HIGHWAY COMMISSION<sup>16</sup>

Calendar Year	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972 Est.
Number of Employees	4826	5338	5598	5925	5893	5869	5990	6043	5275	5010	5191	5300
Average Number of Employees for Four Year	5421 Average <sup>a</sup>				5948 Average				5194 Average <sup>b</sup>			
Increase in Average Number of Employees over Previous Four Year Period	+1145 + 26.8%				+527 + 9.7%				- 754 -12.7%			

<sup>a</sup> 1957-1960 average was 4276.

<sup>b</sup> Governor's 10% personnel cut was initiated in 1969.





undoubtedly enabled the Commission to carry a heavier work load without a corresponding increase in personnel or consultants. The Interstate Program brought about increased utilization of aerial photography and photogrammetry, computer utilization, scheduling processes, and other management innovations.

### Notes

1. A Report on Factors for Use in Apportioning Funds, House Doc. #300, 85th Congress, 2nd Session; The 1961 Interstate System Cost Estimate, House Doc. #49, 87th Congress, 1st Session; The 1965 Interstate System Cost Estimate, House Doc. #42, 89th Congress, 1st Session; The 1968 Interstate Cost Estimate, House Doc. #197, 90th Congress 1st Session; The 1970 Interstate Completion Cost Estimate House Doc. #317, 91st Congress, 2nd Session; and The 1972 Interstate System Cost Estimate, House Public Hearing Document, Committee on Public Works, Communication, 92nd Congress, 2nd Session (Doc. Y4.P96/11, C,92-2) Washington, D.C.: U.S. Government Printing Office).
2. Indiana State Highway Commission, Division of Planning, The 1958, 1961, 1965, 1968, 1970, 1972, and 1974 Estimate of the Cost of Completing the National System of Interstate and Defense Highways in the State of Indiana (Indianapolis: ISHC; July 1, 1957; August 1, 1960; August, 1964; August 1967; March, 1970; August, 1971; and August, 1973), Table D.
3. A Report on Factors for Use in Apportioning Funds and The 1961, 1965, 1968, 1970, and 1972 Interstate System Cost Estimates.
4. A Report on Factor for Use in Apportioning Funds and The 1961, 1965, 1968, 1970, and 1972 Interstate System Cost Estimate.
5. Indiana State Highway Commission, Division of Planning, 1965 Interstate Cost Estimate: Cost Analysis of Increase in Cost over 1961 Estimate (Indianapolis: Indiana State Highway Commission, 1964).
6. The 1965 Interstate System Cost Estimate, p. 12.
7. Indiana State Highway Commission, Division of Planning 1968 Interstate Cost Estimate: Cost Analysis of Increase in Cost over 1965 Estimate (Indianapolis: Indiana State Highway Commission, 1967).





8. Indiana State Highway Commission, Division of Planning, 1970 Interstat Cost Estimate: Cost Analysis of Increase in Cost over 1968 Estimate (Indianapolis: Indiana State Highway Commission, 1970).
9. Indiana State Highway Commission, Division of Planning, 1972 Interstate Cost Analysis of Increase in Cost over 1970 Estimate (Indianapolis: Indiana, State Highway Commission, 1971).
10. Indiana State Highway Commission, Division of Accounting and Control, Budget Office Reports (Indianapolis: Indiana State Highway Commission; fiscal year basis).
11. A Report on Factors for Use in Apportioning Funds and The 1961, 1965, 1968, 1970, and 1972 Interstate Cost Estimate.
12. Based in part on Annual Report on the Financial Condition and Operation of the Highway Trust for Fiscal Year 1972, House Doc. #54, 93rd Congress, 1st. Session (Washington D. C.: U.S. Government Printing Office; March 5, 1972), p. 9.
13. Department of Transportation, Federal Highway Administration, Program Progress (Washington, D. C.: Federal Highway Administration, aperiodic)
14. Indiana State Highway Commission, Annual Report (Indianapolis: Indiana State Highway Commission, fiscal year basis).
15. Indiana State Highway Commission, Progress Report, 1969-1973 (Indianapolis: Indiana State Highway Commission, November 20, 1972), p. 3.
16. Progress Report, 1969-1973, p. 30.



## CHAPTER VIII

### GENERAL BENEFITS

This final chapter discusses the general expected benefits of the Interstate Highway System for the nation and the State of Indiana. The effect of the Interstate Program on other Indiana highway programs is also reviewed and a summary of the conditions that affected the implementation of the Interstate Program in the state is presented.

#### Benefits

The Interstate Program unquestionably will have a profound effect on the citizens and economy of the Nation. Many planners anticipate significant and wide-ranging benefits for both the highway user and the community. Others note that short and long range detrimental impacts on social and environmental values and on other transportation modes may be expected.

Because of the tight traffic corridor around the Great Lakes, Indiana is unique in that it has more Interstate mileage than any other State based on land area, population, or vehicle registration. Indianapolis is unique in that it has seven Interstate legs converging on the city (one more leg than any other city, except Chicago). This may mean that Indiana could receive proportionally greater impacts from the Interstate System than most other States.

Already demonstrated benefits of the Interstate System are those of increased accessibility and safety. Proponents expect future impacts to include a stronger economy for Indiana and increased welfare for its citizens.



## User Benefits

One of the most significant user benefits is an approximate ten percent reduction in highway travel time between cities. As the length of trip increases, the reduction in travel time becomes even greater. Cost of travel is also reduced. Despite the fact that speeds above fifty miles per hour result in increased fuel consumption, overall fuel consumption is reduced by using Interstate routes. Fewer stops, more gentle slopes and broader curves cause lower overall fuel consumption.

In 1971, the partially completed Interstate System in Indiana exhibited a thirty-three percent lesser rate in accidents per vehicle-mile and a thirty percent decreased rate in fatalities per vehicle-mile than the Primary Highway System. This accident reduction is a direct result of full access control, paved shoulders, unobstructed medians and shoulders, buried-end guardrails to protect vehicles from obstructions within a thirty-foot recovery area, shoulder width structures, gentle slopes, superior signing, the utilization of structures with impact attenuation devices, and rest parks.

The Interstate also provides increased comfort and convenience to the driver. Fully controlled access and less congestion on the System make travel more pleasant for the driver and passengers.

Due to the many Interstate bypasses which divert through traffic from many existing urban routes, traffic volumes on these formerly heavily traveled routes have often been reduced fifty percent or more. Consequently, local traffic also receives benefits from decreased congestion in lower travel times, lower vehicle operating costs, increased safety and increased comfort and convenience.

Due to decreased travel times and vehicle operating costs, the cost of shipping goods is significantly cheaper using the Interstate System than other highways. As a



consequence, truck terminals have begun to relocate near the Interstate System to realize the benefits of lower shipping costs. On the other hand, the strengthened position of the trucking industry in competition with other modes of transport has led to further financial difficulties in rail transportation and aggravated the problem of maintenance of these necessary facilities.

### Community Benefits

•By highway induced reorganization of land use and highway oriented reorganization of the processes of production, distribution and consumption, the Interstate highways serve as a means by which the forces of population growth, increased productivity and higher living standards function to transform the economic and social patterns of American life.<sup>1</sup>

Due to increased accessibility, the Interstate has altered the economic potential of land, influencing land use and development of the community. Changes in land value reflect the economic potential of land. Increases in land value along the Interstate routes, which almost always have occurred, generally decrease with increasing distance from the facility. Due to the fact that the Interstate System is a fully controlled access facility, accessibility also varies along the facility. Consequently, increases in land value are concentrated at the interchange areas which have the highest degree of accessibility. The interchange areas have become nodes of high land value, and land value decreases with increasing distance from the interchange.

Because the Interstate System provides greater accessibility than other highway developments, the System's location will also probably be a greater determinant of community development than other highway developments. The System opens land for possible major development and serves as a development catalyst. Where Interstate routes have been located through existing development, the use of land along the





facility is often greatly altered. Single family residential and agriculture uses near interchanges have often been replaced by more intense use development, such as apartments or commercial facilities.

It is also clear that the Interstate System influences growth of small communities within its corridor. Small communities distance from the System generally continue to stagnate or decline in population, depending on the trend of the community before the Interstate. On the other hand, communities along the System and within commuting distance of metropolitan areas have experienced a surge in population.

In Indianapolis, the Interstate freeway system is expected to aid in the revitalization of the central business district. The urban freeways will make the downtown area more accessible to the suburbs. The freeways will also remove through traffic or crosstown traffic from surface streets in the CBD. The result anticipated is reduced peak hour congestion in the central area and better circulation for local traffic. The reduction of traffic volumes on arterials in the CBD is also expected to permit a more unified and integrated core.

The Interstate freeways have severed some neighborhoods in the Indianapolis area and some expect this impact to be serious. Others note that the Interstate has diverted crosstown traffic from arterials that already had split many of these neighborhoods. They claim the result may be overall reductions in noise and pollution levels throughout the community as the elimination of frequent vehicle stops reduces both.

Another probable influence of the System will be reflected in the relocation of industrial, retail and service establishments to make possible the realization of increased economies of scale. Such activities can now be larger and more widely spaced because they can serve conveniently and economically greater market areas. Intraurban goods



distributors may also realize significant cost savings where they are able to utilize the System.

It is also clear that through a reduction in commuting time, the Interstate System has broadened the labor and job market. The employer has a larger and more diversified labor pool. The employee who has access to a motor vehicle has a greater choice of jobs and can locate employment with greater ease. However, the low income individual, such as some minority groups in the central city of Indianapolis because of economic reasons may not have a vehicle and may find industry even less accessible than before.

Interstate highways also increase accessibility for many persons to shopping centers, medical facilities, educational activities, recreational developments, and other public facilities. Many rural residents can now more easily reap the cultural and educational rewards of the urban area yet still enjoy life in the rural environment.

The Interstate System has adversely affected some businesses. The diversion of traffic from existing routes resulted in a loss of customers for some highway-oriented businesses that were bypassed. Some have relocated along the Interstate Route; others lacked the capital to relocate or were unwilling to start again in a new location. Their survival depends on the ability of the owner to reorient his activity from a dependence on through traffic to service to the local area. Some will undoubtedly cease to operate.

The System has also adversely affected low income minority groups and small businesses in the central city of Indianapolis through displacement. Because of limited financial resources, these individuals were least able to bear the social costs of the new freeway facilities despite relocation payments. Although advance land acquisition began on the Indianapolis Interstates on a willing-seller basis in 1963, Indiana lacked the necessary legislation to make relocation and supplement housing payments until April of 1967. From 1962



to April 1967, Indiana provided only relocation advisory assistance.

From April of 1967 to June of 1972 (after most of the Interstate acquisition had been completed in Indianapolis), the Indiana State Highway Commission made relocation assistance payments to businesses and residents amounting to \$3,120,846. Between April 1, 1967 and September 30, 1968, moving payments averaged \$117 per dwelling unit. From October 1, 1968 to June 30, 1973, moving payments averaged \$222 per dwelling unit. Roughly one-quarter of these same families also received replacement housing payments averaging \$1,827 per dwelling unit. Roughly one-half of these families received rental supplements averaging \$826 per dwelling unit. These averages are very rough because eligibility requirements and relocation payment provisions changed during the periods noted.

Table 23 (p. 784) gives an idea of the fiscal year expense for relocation assistance including payments and administration. A summary of the relocation statistics for fiscal years 1969 through 1972 appears in Table 36, p. 820. Payments amounting to \$67,501 were made in fiscal year 1973. On the basis of the quarterly reports of the Relocation Section of the Division of Land Acquisition of the Indiana State Highway Commission from October 1, 1965 to June 30, 1973, an analysis of relocation assistance and payments by various categories appears in Tables 37, 38 and 39, pages 821 and 822.

Over ninety percent of the displacement by the Interstate System occurred in Marion County. From 1963 through 1972, an estimated 7,800 families were displaced by the System. Based on relocation statistics since April 1, 1967, roughly forty percent of the families received relocation payments. Although advisory assistance was offered to all who were displaced, only an estimated 5000 families took advantage of the service. The Relocation Division of the Redevelopment



TABLE 36. RELOCATION STATISTICS FOR INTERSTATE<sup>2</sup>

ITEM	FISCAL YEAR 1969		FISCAL YEAR 1970		FISCAL YEAR 1971		FISCAL YEAR 1972	
	INTERSTATE URBAN	INTERSTATE RURAL	INTERSTATE URBAN	INTERSTATE RURAL	INTERSTATE URBAN	INTERSTATE RURAL	INTERSTATE URBAN	INTERSTATE RURAL
# OF RELOCATEES (UNITS)	1,431	81	385	117	84	63	26	15
OWNERS	510	42	190	98	42	52	14	10
TENANTS	921	39	195	19	42	11	10	5
DWELLINGS	1,198	67	259	78	59	28	10	7
BUSINESSES	226	14	126	39	25	35	16	8
NONPROFIT ORG.	7	0	0	0	0	0	0	0
PAYMENTS	\$579,924.95	\$ 23,434.00	\$1,412,513.65	\$169,059.02	\$300,050.13	\$93,567.87	\$223,822.00	\$21,867.00





TABLE 37. ANALYSIS OF RELOCATION ASSISTANCE AND PAYMENTS FOR  
INTERSTATE SYSTEM IN INDIANA FROM OCTOBER 1, 1965  
TO SEPTEMBER 30, 1968<sup>3</sup>  
(NUMBERS)

Number	Total		White		Non-White		Owners		Tenants		Below \$60,000 Value or \$60 Rental				\$60,000 to \$150,000 Value or \$100 Rental				Over \$150,000 Value or \$100 Rental				Rural		Urban		Total		Amount of Payments, beginning April 1, 1967 (Dollars)					
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After	Rural	Urban	Total			
	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67	4-1-67		
Of Relocates (units)	331	2256	206	1358	125	898	220	926	111	1330	103	688	200	1461	28	107	6	75	325	2181	2587													
Furnished Requested Assistance (units)	126	1065	73	510	53	555	64	357	62	708	65	403	59	652	2	10	1	29	125	1036	1191													
Relocated Through Assistance	13	395	4	157	9	238	4	82	9	313	11	185	2	210	0	0	0	15	13	380	408													
Relocated on Own Initiative	318	1861	202	1201	116	660	216	844	102	1017	92	503	198	1251	28	107	6	60	312	1801	2179													
Of Residential Payments	0	1990																69	1921		1990													
Of Business Payments	0	223																6	217		223													
Total Amount of Payments																							11,254.50	372,462.28	383,716.78									

Note Prior March of 1967 Indiana locked enabling legislation to make relocation payments

Note: Prior March of 1967, Indiana lacked enabling legislation to make relocation payments.







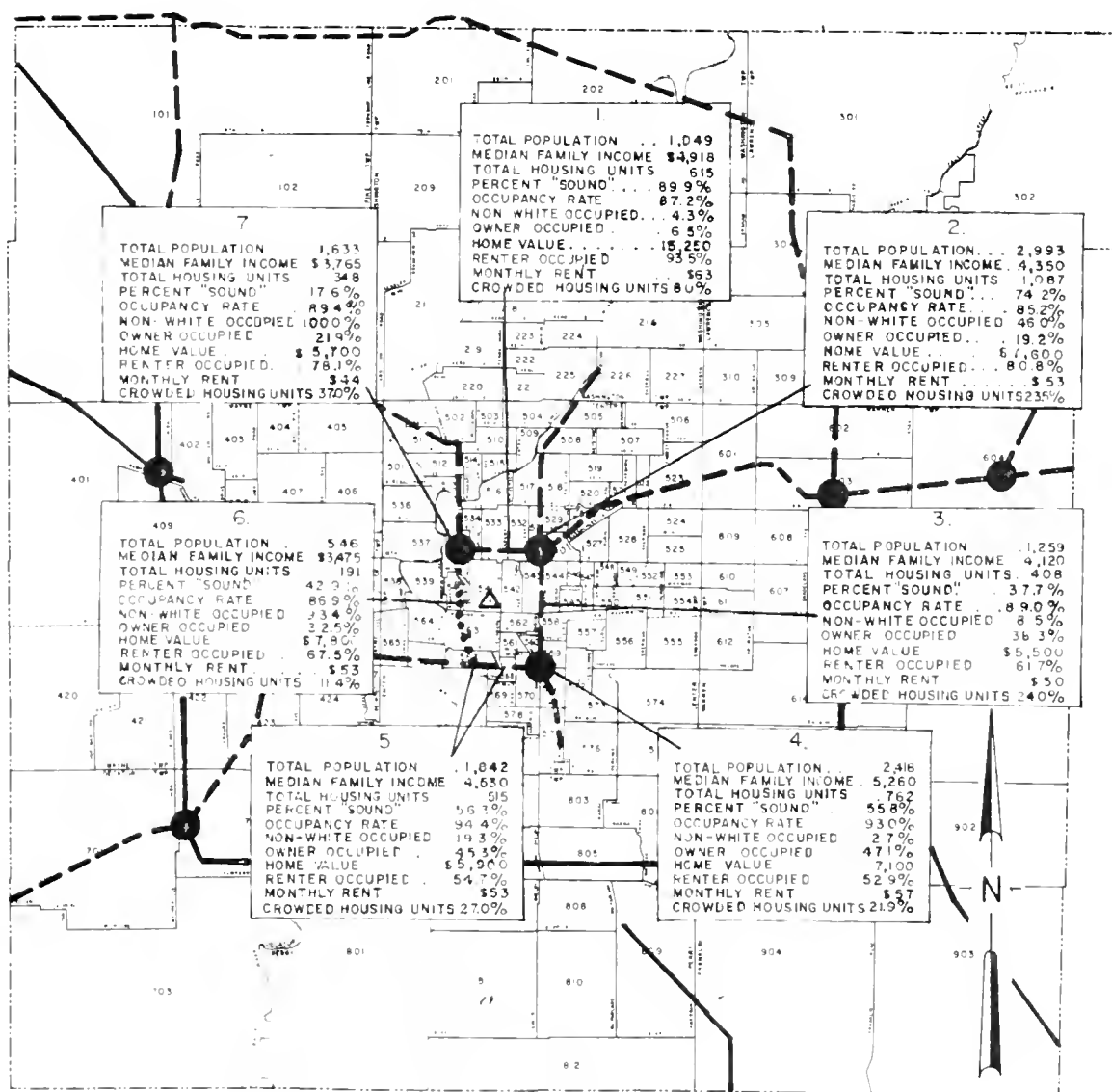
Department of Indianapolis and its subcontractors (Flanner House and the Community Action Program Agency of Indianapolis) provided advisory assistance to approximately 1260 of the 5000 families; the Indiana State Highway Commission provided assistance to the remainder and processed all relocation payments. Although some middle and upper income families refused relocation assistance, there were undoubtedly a number of low income families who failed to take advantage of the relocation services provided by the State. Some families left the area of the proposed facility without a trace when they learned the rental housing in which they lived was to be acquired. There were also cases in which families left the area without collecting their relocation payments.

Generally the income level of those displaced declined as the radial routes approached the urban core of Indianapolis. Figure 128 (p. 824) records the social and housing characteristics of those displaced in the construction of the Inner Belt. Although clearance of right-of-way of the Inner Belt removed blighted housing that was often too deteriorated to be rehabilitated, the supply of low income housing was materially reduced, thus aggravating the low income housing problem. The Indianapolis Housing Authority provided dwellings for four hundred families displaced by the Inner Belt construction. These families at one time occupied forty percent of the public housing units in Indianapolis.

The Indiana State Highway Commission utilized an advanced land acquisition program for the Interstate System within Indianapolis to minimize relocation problems. Advanced land acquisition allowed those displaced a greater amount of time to search for replacement housing.

Because replacement housing payments and rental supplements could only be made to those who relocated to standard housing, those who previously lived in substandard housing improved their quality of housing. However, rental supplements which covered the cost of housing above twenty-five





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BASE MAP AND DATA  
FURNISHED BY  
METROPOLITAN PLANNING  
DEPARTMENT, MARION  
COUNTY, INDIANA

FIGURE 128 SOCIAL AND HOUSING CHARACTERISTICS INNER LOOP FREEWAY PLAN





percent of the relocatee's income were temporary. Relocates who became home owners received long term financial benefits because housing payments covered the difference between the value of the existing housing and comparable replacement housing and provided downpayments for those who wished to become home owners. Unfortunately, the more liberal relocation benefits came after a majority had been displaced. The section on relocation in Chapter V covers relocation benefits in greater detail.

In summary, the Interstate System adversely affected through displacement some people and businesses who were least able to bear the social cost and resulted in the loss of customers to highway-oriented businesses which were bypassed. On the other hand, many benefits from the Interstate System resulted to others in each affected community. A thorough evaluation of all impacts at some future date will be necessary to determine the final overall effect the Interstate System will have on the communities of Indiana.

#### Effect on Other Highway Programs

Since about 1960, the Interstate Program has taken precedence over other highway programs in Indiana and in the nation. State funds used to match Federal funds for the Interstate Program have restricted the availability of State funds for other State programs. Expenditures and appropriations for non-Interstate highway programs have increased since the Interstate Program began in 1956, but have not increased in the same proportion as expenditures and funding for the Interstate Program. It should be noted, however, that the other highway programs have had priority over the Interstate Program in the disposition of funds from the Federal Highway Trust Fund. When there were inadequate revenues for all highway programs in fiscal year 1961, the authorization for only the Interstate Program was cut.



Because highways intersecting the Interstate System require improvement to handle additional loads created by the System, other Federal aid improvements have been highly related to the Interstate Program. However, the policy of the Indiana State Highway Commission has been to improve the crossroad at some programmed date and not to improve the crossroad concurrently with Interstate construction. This policy has maintained the priorities for improvement established by needs studies for other systems.

Because the Interstate Program was for a fixed time period rather than a continuing program like other highway programs, it deserved a temporary increased emphasis. In the early 70's the emphasis returned to the continuing programs which had been somewhat neglected. Since the Interstate System had nearly been completed, the Indiana State Highway Commission concluded that a shift of emphasis to the other highway programs was desirable. In fiscal years 1970 through 1972, Indiana spent nearly \$140 million on Primary System construction. These expenditures have been on primary routes that fill the voids in the Interstate System.

There are few highway projects where traffic volumes and traffic operations warrant a design comparable to that of the Interstate. However, the Interstate System has revealed the benefits of higher type facilities to the public. Without the experience of the Interstate System, it would be more difficult to support the needs for higher design and operational standards. The Interstate Program has been the proving ground for many innovations in design to improve safety and operations. These innovations will gradually be translated to other systems because of public recognition of their benefits.

#### The Second Time Around

The Federal Aid Highway Act of 1956 and Highway Revenue Act of 1956 provided the basic schedule of expenditures and



revenues to complete the System by July 1, 1969. Congress foresaw that the cost of the System would increase and expected to make biennial adjustments in the expenditures and revenues to complete the System by the specified completion date. However, Congress did not anticipate the magnitude of the increase in the total cost of the System that occurred. From July of 1954 to January of 1971, the total cost of the System increased from \$27 billion to \$76 billion for the Nation and from 0.87 billion to \$1.42 billion for Indiana.

The increase in the total cost of the System was due to changes in law, policy and standards as well as a general increase in construction prices. Congress changed the design year for the System, required a minimum of four lanes, stressed the importance of safety, required greater consideration of environmental factors, and extended the length of the System. The Federal Highway Administration approved heavier pavements and additional lanes to accommodate the traffic volumes for the new design years. Federal participation in new design standards, with respect to safety on new projects and corrective work on completed projects, increased the total cost of the System.

As these factors increased the ultimate cost of the System, the completion date for the System was extended to maintain the balance of revenues and expenditures. With each delay in completion of the System, the cost of the System increased further due to increases in construction prices.

Although the completion date for the System is June 30, 1976, according to the Federal Aid Highway Act of 1970, the completion date more realistically will be June 30, 1979, or even later, on the basis of projected funding. If projected funding levels are low, the System may not be completed until the 1980's.

Despite the fact that completion of the System has been delayed, the System is having tremendous impacts on the user and the community. The changes in the design of the System



extended its structural and functional life, assured safer travel, provided increased service to urban areas, and insured greater compatibility with the goals and objectives of urban areas. If these changes had not been made, the System might have been completed earlier; however, the System would be obsolete by 1975 and would require expensive upgrading to carry future traffic loads and to bring the System into compliance with new safety standards.

If the Interstate Program history were to be relived, it is probable that the Indiana State Highway Commission would not greatly alter its construction priorities. To a great extent these priorities were predicated on the time needed to develop highway projects. If the State had concentrated its early efforts on the completion of the System in urban areas, the System would have provided greater benefits to a segment of the population, but not to the State as a whole. The complexity and cost of developing urban portions of the System would have meant that only a much smaller portion of the System would have been completed by 1972 rather than eighty-seven percent of the System. Federal regulations of 1972 require a longer time for the development of Interstate projects; consequently, a change to early urban priorities would further have delayed completion of a large share of the System in Indiana.

Planning on the complex segments of the Interstate System in Indianapolis, nevertheless, began early in the Interstate Program. The mere complexity of design and coordination in the Indianapolis area have stretched the development time for these projects until the latter part of the Interstate Program.

The release of funds for obligation by the Bureau of Budget and the amounts of allocations by Congress have affected the implementation of the Interstate Program. As the total cost of the System increased, Congress authorized increased expenditures. However, to keep the increased expenditures on the System in balance with revenues under existing law,





the expenditures were spread over a greater period of time, delaying the completion date.

Indiana geared up its production of plans and acquisition of right-of-way in anticipation of receiving the necessary funds to complete the System by the established completion date. Each time the completion date was deferred, the State had to redesign some of the projects already completed. In other words, if plans were based on a certain set of specifications and construction was delayed such that new specifications were required, the original design plans had to be revised in accordance with the new specifications.

Since the withholding of funds began in 1966, the resulting uncertainty of funding has made the establishment of an on-going highway program more difficult. Because the annual apportionment of Interstate funds is based on costs to complete the System, Indiana has been receiving less in apportionments in recent years. When the already limited funds were then partially withheld, Interstate Program financing became a problem, especially in 1972.

Many highway engineers and planners feel that it would have been best to provide the necessary funds to complete the System by the original completion date. However, they recognize that the highway program must compete with other equally necessary programs for the limited financial resources of the Nation. Although the withholding of highway funds is distasteful from the highway program standpoint, the regulation of Federal expenditures is a recognized means to regulate the economy. The Highway user generally has accepted the temporary withholding of funds for economic reasons; however, the possible utilization of these withheld funds for non-highway purposes as proposed in recent Federal legislation has met strong opposition.

Indiana is fortunate that it did not experience a significant financial pinch until after most of the Interstate System had been completed. However, financial limitations



will make completion of the remainder of the System a task requiring several years.

The Interstate System is a most important part of the highway transportation system in Indiana and transportation is vital to the economic well-being of Indiana. It is certain that the Indiana Interstate System will play a commanding role in the future of Indiana and will have a great impact on the welfare of its citizens. This history is a documentation of the development of the System and should serve as basic information from which a future evaluation of the full impacts of the System on Indiana can be made. Such an evaluation is strongly recommended.

#### Notes

1. Final Report of The Highway Cost Allocation Study, Part IV: "Data Concerning the Economic and Social Effects of Highway Improvement", House Doc. #72, 87th Congress, 1st Session (Washington, D.C.: U.S. Government Printing Office, 1961), pgs. 4-6.
2. Indiana State Highway Commission, Annual Report (Indianapolis Indiana State Highway Commission, annually).
3. Based on Indiana State Highway Commission, Division of Land Acquisition, Section of Relocation, "Relocation Assistance and Payment Statistics", reports (Indianapolis: Indiana State Highway Commission, quarterly and fiscal year basis).
4. Community Service Council of Metropolitan Indianapolis, Indiana, A Summary of Relocation Problems and Recommendations (Indianapolis, Indiana: Community Service Council of Metropolitan Indianapolis, Inc.; September, 1964).



## BIBLIOGRAPHY



## BIBLIOGRAPHY

General References

1. Adams, James D. "The Motorist's State in Highway Development", Proceedings of the Annual Purdue Road School, 27th Session, 1941. Lafayette, Indiana: Department of Engineering Extension, Purdue University, 1941; p. 19.
2. American Association of State Highway Officials. The First Fifty Years, 1914-1964. Washington, D.C.: American Association of State Highway Officials, 1965.
3. American Association of State Highway Officials. Highway Design and Operational Practices Related to Highway Safety. Washington, D.C.: AASHO; February, 1967.
4. Annual Report on the Financial Condition and Operation of the Highway Trust for Fiscal Year 1972. House Doc. # 54, 93rd Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office; March 5, 1972.
5. Fifteenth [Annual Report on Highway Trust Fund]. House Doc. # 58, 92nd Congress, 1st session. Washington, D.C.: U.S. Government Printing Office; March 3, 1971.
6. Black, David S. "The Federal-Aid Highway Act of 1962," Highway Research Board Record 8. Washington, D.C.: Highway Research Board, 1963; pgs. 4-10.
7. Branham, A. K.; Covault, D. O.; and Michael, H. L. "Progress Report on State Highway Needs in Indiana", Proceedings of the Annual Purdue Road School, 42nd Session, 1956. Lafayette, Ind.: Department of Engineering Extension, Purdue University; 1956.
8. Broth, Christy. Mankind on the Move. Washington, D.C.: Automotive Safety Foundation, 1969.
9. Community Service Council of Metropolitan Indianapolis, Ind. A Summary of Relocation Problems and Recommendations. Indianapolis, Ind.: Community Service Council of Metropolitan Indianapolis, Ind.; September, 1964.





10. Consideration for Reimbursement for Certain Highways on the Interstate System. House Doc. # 301, 85th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; January, 1958.
11. Construction of Roads Needed for National Defense. Senate rp. # 416, 77th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office, 1941.
12. Dicus, T. A. "Looking Toward the Future of Indiana Roads", Proceedings of the Annual Purdue Road School, 26th Session, 1940. Lafayette, Indiana: Department of Engineering Extension, Purdue University, 1940; p. 20.
13. Esarey, Logan. History of Indiana. Dayton, Ohio: Dayton Historical Publishing Company, 1922.
14. Esarey, Logan. "Internal Improvements in Early Indiana", Indiana Historical Society Publications, Vol. V, Number 2. Indianapolis, Ind.: Edward J. Hecko, Printer; 1912.
15. Federal-Aid Highway Act of 1956. Senate report # 1965, 84th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; May 10, 1956.
16. To Amend and Supplement the [Federal-Aid Road Act] Approved July 11, 1916, To Authorize Appropriations for Continuing the Construction of Highways; To Amend the Internal Revenue Code of 1954 to provide additional Revenue from the Taxes on Motor Fuel Tires and Trucks and Buses. Senate report # 2054, 84th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; May 25, 1956.
17. Federal-Aid Highway and Highway Revenue Acts of 1956. House report # 2436, 84th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; June 25, 1956.
18. Federal-Aid Highway Act of 1958. Senate report # 1407, 85th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; March 22, 1958.
19. Federal-Aid Highway Bill of 1958. House report # 1591, 85th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; April 2, 1958.



20. Amending the [Federal-Aid Highway Act of 1958] to Extend For an Additional 2 Years The Estimate of Cost of Completing the Interstate System. House report # 2254, 85th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; July 23, 1958.
21. Amending the [Federal-Aid Highway Act of 1958] to Extend for An Additional Year the Estimate of Cost of Completing the Interstate System. Senate report # 2421, 85th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; August 16, 1958.
22. Federal-Aid Highway Act of 1959. House report # 1120, 86th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office; September 1, 1959.
23. Federal-Aid Highway Act of 1959. Senate report # 902-903, 86th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office; September 4, 1959.
24. Federal-Aid Highway Act of 1960. Senate report #1725, 86th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; June 24, 1960.
25. Federal-Aid Highway Act of 1968. Senate report # 1340, 90th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; June 28, 1968.
26. Final Report of The Highway Cost Allocation Study. House Doc. # 54, 87th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office, 1961.
27. Final Report of The Highway Cost Allocation Study, Part VI: "Data Concerning the Economic and Social Effects of Highway Improvement". House Doc. # 72, 87th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office, 1961.
28. First Progress Report on The Highway Cost Allocation Study. House Doc. # 106, 85th Congress, 1st Session Washington, D.C.: U.S. Government Printing Office, 1957.
29. Highways for the National Defense (Expansion of Highway Facilities for National Defense). Senate Doc. # 62, 77th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office; February 1, 1941.
30. Highway Needs of the National Defense. House Doc. #249, 81st Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office; June, 1949.



31. Highway Users Federation for Safety and Mobility. Economic Analysis for Transportation - A Guide For Decision Makers. Washington, D.C.: Highway Users Federation For Safety and Mobility; March, 1971.
32. Hiltz, H. E. "Planning the Interregional Highway System", Public Roads. Washington, D.C.: U.S. Government Printing Office; Vol. 22, No. 4, June, 1941; pgs. 69-102.
33. Indiana Department of Commerce, Division of Planning. Intergovernmental Cooperation. Indianapolis, Ind.: Division of Planning, 1971.
34. Indiana State Highway Commission. Annual Report of the Indiana State Highway Commission. Indianapolis, Ind.: ISHC, annually.
35. Indiana State Highway Commission, Division of Accounting and Control. Budget Office Reports. Indianapolis: Indiana State Highway Commission; fiscal year basis.
36. Indiana State Highway Commission, Division of Design. Design Manual. Indianapolis, Ind.: Division of Design, January, 1971.
37. Indiana State Highway Commission, Division of Design, Section of Roadside Development. Environmental Impact Statements. Indianapolis, Ind.: Indiana State Highway Commission; March 10, 1972.
38. Indiana State Highway Commission, Division of Planning, The 1958, 1961, 1965, 1968, 1970, 1972, 1974 Estimate of the Cost of Completing the National System of Interstate and Defense Highways in the State of Indiana. Indianapolis, Ind.: Indiana State Highway Commission; July 1, 1957; August 1, 1960; August 1964; August 1967; March, 1970; August, 1971; August, 1973;
39. Indiana State Highway Commission. Indiana Highway Progress Report of 1960. Indianapolis, Ind.: I.S.H.C. 1960.
40. Indiana State Highway Commission, Division of Land Acquisition, Section of Relocation. Indiana Relocation Policy and Procedure Manual. Indianapolis, Ind.: Indiana State Highway Commission, 1971.
41. Indiana State Highway Commission, Division of Planning. 1965 Interstate Cost Estimate: Cost Analysis of Increase in Cost over 1961 Estimate. Indianapolis: Indiana State Highway Commission, 1964.



42. Indiana State Highway Commission, Division of Planning. 1968 Interstate Cost Estimate: Cost Analysis of Increase in Cost over 1965 Estimate. Indianapolis: Indiana State Highway Commission, 1967.
43. Indiana State Highway Commission, Division of Planning, 1970 Interstate Cost Estimate: Cost Analysis of Increase in Cost Over 1968 Estimate. Indianapolis: Indiana State Highway Commission, 1970.
44. Indiana State Highway Commission, Division of Planning, 1972 Interstate Cost Estimate: Cost Analysis of Increase in Cost Over 1970 Estimate. Indianapolis: Indiana State Highway Commission, 1971.
45. Indiana State Highway Commission, Progress Report, 1969 1973. Indianapolis: Indiana State Highway Commission; November 20, 1972.
46. Indiana State Highway Commission, Division of Land Acquisition, Section of Relocation. "Relocation Assistance and Payment Statistics" reports. Indianapolis, Ind.: ISHC, quarterly and fiscal year basis.
47. ISHC. Road Construction Department Procedure Memorandum. Indianapolis: ISHC; April 25, 1961.
48. ISHC. Rural Highway Geometric Standards. Indianapolis: ISHC; January 11, 1968.
49. Interregional Highways. House Doc. # 379, 78th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; January, 1944.
50. The 1961 Interstate System Cost Estimate. House Doc. # 49, 87th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office; January 12, 1961.
51. The 1965 Interstate System Cost Estimate. House Doc. # 42, 89th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office; January 13, 1965.
52. The 1968 Interstate System Cost Estimate. House Doc. # 199, 90th Congress, 2nd Session, Washington, D.C.: U.S. Government Printing Office; January 15, 1968.
53. The 1970 Interstate Completion Cost Estimate (A Revised Estimate of the Cost of Completing the National System of Interstate and Defense Highways). House Doc. #317, 91st Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; April 21, 1970.





54. The 1972 Interstate System Cost Estimate (A Revised Estimate of the Cost of Completing the National System Of Interstate and Defense Highways). House Public Hearing Document, Committee on Public Works, Communication, 92nd Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; February, 1972. (Doc. Y4. P96/11, C, 92-2).
55. Laws Relating to Federal Aid in Construction of Roads. Washington, D.C.: U.S. Government Printing Office, 1966 and 1971.
56. Laws of the State of Indiana. Indianapolis, Ind.: The Bookwalter Company, bi-annually.
57. Leish, Jack E. "Determination of Interchange Types on Freeway Facilities: Systems Engineering Approach", Traffic Engineering, Vol. 42, No. 8. Washington, D.C.: Institute of Traffic Engineers; May, 1972; pgs. 16-25.
58. Leisch, Jack E. Interchange Design. Chicago: DeLeuw, Cather & Company, Consulting Engineers; November, 1962.
59. National Highway Program. House Doc. # 93, 84th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office, 1955.
60. Needs of the Highway Systems, 1955-84. House Doc. # 120, 84th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office, 1955.
61. Painter, W. D. and Kassees, W. K. The Evolution of the Geometrics for an Interstate Interchange. (University of Tennessee: Annual Tennessee Highway Conference; April 9, 1964) Memphis, Tenn.: Clark, Dietz, Painter & Associates; April 9, 1964.
62. Post-War Federal-Aid Highway Act of 1944. House report # 1597, 78th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office, 1944.
63. President's Advisory Committee on a National Highway Program. A 10-Year National Highway Program. Washington, D.C.: U.S. Government Printing Office; January, 1955.
64. Progress Report on The Federal-Aid Highway Program. House Doc. #74, 86th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office; January, 1959.
65. Reimbursement Recommendations for Certain Highways on the Interstate System. House report # 2267, 85th Congress, Washington, D.C.: U.S. Government Printing Office, July 24, 1958.



66. A Report of Factors for Use in Apportioning Funds for the National System of Interstate and Defense Highways. House Doc. # 300, 85th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; January, 1958.
67. Revised Table for Interstate Highway Funds. House Doc. # 345, 90th Congress, 2nd Session. Washington, D.C.: U.S. Government Printing Office; July 2, 1968.
68. Satterly, Jr., Gilbert T. Spacing of Interchanges and Grade Separations on Urban Freeways. Evanston, Illinois: Northwestern University; June, 1965.
69. Smerk, George M. Urban Transportation: The Federal Role. Bloomington, Ind.: Indiana University Press, 1965.
70. Supplementing the Federal Aid Road Act - Construction of Roads for National Defense. House report # 1379, 77th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office, 1941.
71. Toll Roads and Free Roads. House Doc. # 272, 76th Congress, 1st Session. Washington, D.C.: U.S. Government Printing Office; April, 1939.
72. U.S. Bureau of Budget. Circular Memorandum A-95 (Revised) (Subject: Project Notification and Review System). Washington, D.C.: Bureau of Budget; February 9, 1971.
73. United States Code. Washington, D.C.: U.S. Government Printing Office, 1971; Title 23 - Highways.
74. United States Code - Congressional and Administrative News. 91st Congress, 2nd Session. St. Paul, Minn.: West Publishing Co.; Vol. 1, pgs. 2001-2038; December 31, 1970. (Federal-Aid Highway Act of 1970).
75. U.S. Department of Commerce, Bureau of Public Roads. Circular Memorandum 9-62 of G. M. Williams (Subject: Interstate Highways - Participation Limits at Crossroads and Interchanges). Washington, D.C.: Bureau of Public Roads; September, 1962.
76. U.S. Department of Commerce, Bureau of Public Roads. Circular Memorandum 7-63 of G. M. Williams. (Subject: Interstate highways - bridge widths). Washington, D.C.: Bureau of Public Roads; July 26, 1963.
77. U.S. Department of Commerce, Bureau of Public Roads. Circular Memorandum 9-15-64 (Subject: Location of Interstate and other Federal-aid highways). Washington, D.C.: Bureau of Public Roads; September 15, 1964.



78. U.S. Department of Commerce. The Federal Role in Highway Safety. Washington, D.C.: U.S. Government Printing Office, 1959. (House Doc. # 93, 86th Congress, 1st Session).
79. U.S. Department of Commerce, Bureau of Public Roads. General Location of National System of Interstate Highways. Washington, D.C.: U.S. Government Printing Office; September, 1955.
80. U.S. Department of Commerce, Bureau of Public Roads. Instruction Manual for Preparation and Submission of a Detailed Estimate of the Cost of Completing the Interstate System. Washington, D.C.: U.S. Government Printing Office; October, 1956.
81. U.S. Department of Commerce, Bureau of Public Roads. Instruction Manual for Preparation and Submission of the 1961 Estimate of the Cost of Completing the Interstate System. Washington, D.C.: U.S. Government Printing Office; January, 1960.
82. U.S. Department of Commerce, Bureau of Public Roads. Instruction Manual for Preparation and Submission of the 1965 Estimate of the Cost of Completing the Interstate System. Washington, D.C.: U.S. Government Printing Office; December, 1963.
83. U.S. Department of Commerce, Bureau of Public Roads. Instruction Manual for Preparation and Submission of The 1968 Estimate of the Cost of Completing the Interstate System. Washington, D.C.: U.S. Government Printing Office; February, 1967.
84. U.S. Department of Commerce, Bureau of Public Roads. Instructional Memorandum 21-1-62 (Subject: Interstate Highways - Stage Construction of through traffic lane pavements, shoulders and frontage roads). Washington, D.C.: Bureau of Public Roads; January 11, 1962.
85. U.S. Department of Commerce, Bureau of Public Roads. Instructional Memorandum 21-5-63 (Subject: Coordination of public interests of highway improvements with those of fish and wildlife resources). Washington, D.C.: Bureau of Public Roads; June 12, 1963.
86. U.S. Department of Commerce, Bureau of Public Roads. Instructional Memorandum 21-1-67 (Subject: Interstate Highways - F.A.I. Fund Participation in Costs of Additional Stage Construction on Through Traffic Lane Pavement Structures Prior to October 1963). Washington, D.C.: Bureau of Public Roads; January 11, 1967.



87. U.S. Department of Commerce, Bureau of Public Roads. Instructional Memorandum 40-2-66 (Subject: Interstate highways - bridge widths). Washington, D.C.: Bureau of Public Roads; November 3, 1966.
88. U.S. Department of Commerce, Bureau of Public Roads. Instructional Memorandum 40-1-67 (Subject: Guidelines for Lateral Clearances and Use of Guardrails at Bridge Piers and Abutments Adjacent to High-Speed Traveled Ways). Washington, D.C.: Bureau of Public Roads, February 2, 1967.
89. U.S. Department of Commerce, Bureau of Public Roads. Policy and Procedure Memorandum 21-17 (Subject: Landscaping and Scenic Enhancement). Washington, D.C.: Bureau of Public Roads; February 18, 1966.
90. U.S. Department of Transportation, Federal Highway Administration. Benefits of Interstate Highways. Washington, D.C.: U.S. Government Printing Office; June, 1970.
91. U.S. Department of Transportation, Federal Highway Administration. Circular Memorandum 5-9-67 (Subject: 1968 Interstate Cost Estimate and IM21-1-67: Additional Stage Construction on Pavement Structures Constructed or Authorized to be Constructed Prior to October 1963). Washington, D.C.: Federal Highway Administration; May 9, 1967.
92. U.S. Department of Transportation, Federal Highway Administration. FHWA Notice of June 23, 1971 (Subject: Joint Development to Achieve Broad Scale Planning). Washington, D.C.: Federal Highway Administration; June 23, 1971.
93. U.S. Department of Transportation, Federal Highway Administration. FHWA Notice of October 28, 1971 (Subject: Multiple Use and Joint Development of Highway Right-of-Way: Problems and Possibilities). Washington, D.C.: Federal Highway Administration; October 28, 1971.
94. U.S. Department of Transportation, Federal Highway Administration. Highway Environment Reference Book. Washington, D.C.: Federal Highway Administration; November, 1970.
95. U.S. Department of Transportation, Federal Highway Administration, Bureau of Public Roads. Instruction Manual for Preparation and Submission of the 1970 Estimate of the Cost of Completing the Interstate System. Washington, D.C.: U.S. Government Printing Office; January, 1969.





96. U.S. Department of Transportation, Federal Highway Administration. Instructional Memorandum 10-3-68 (Subject: Additional Interstate System mileage designations authorized in the Federal-Aid Highway Act of 1968). Washington, D.C.: Federal Highway Administration; August 28, 1968.
97. U.S. Department of Transportation, Federal Highway Administration. Instructional Memorandum 20-1-69 (Subject: Interim Criteria Promulgated under Paragraph 10e, PPM 20-8, Public Hearings and Location Approval, Relating to Right-of-Way Acquisition). Washington, D.C.: Federal Highway Administration; June 11, 1969.
98. U.S. Department of Transportation, Federal Highway Administration. Instructional Memorandum 21-12-67 (Subject: Interim procedures for program review required by Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966). Washington, D.C.: Federal Highway Administration; June 23, 1967.
99. U.S. Department of Transportation, Federal Highway Administration. Instructional Memorandum 21-2-69 (Subject: Federal Participation in the Development of Multiple Use Facilities on the Highway Right-of-Way). Washington, D. C.: Federal Highway Administration; January 17, 1969.
100. U.S. Department of Transportation, Federal Highway Administration. Instructional Memorandum 21-8-71. (Subject: Federal-aid Financing on Completed Sections of the Interstate System). Washington, D.C.: Federal Highway Administration; May 4, 1971.
101. U.S. Department of Transportation, Federal Highway Administration. Instructional Memorandum 40-2-67 (Subject: Bridge Widths - Safety Provisions). Washington, D.C.: Federal Highway Administration; October 3, 1967.
102. U.S. Department of Transportation, Federal Highway Administration. Instructional Memorandum 50-1-70 (Subject: Procedures for program evaluation, review, and coordination required by Section 204 of the Demonstration Cities and Metropolitan Development Act of 1966, and Title IV of the Intergovernmental Cooperation Act of 1968). Washington, D.C.: Federal Highway Administration; January 12, 1970.



103. U.S. Department of Transportation, Federal Highway Administration. Instructional Memorandum 80-1-68 (Subject: Relocation Assistance and Payments - Interim Operating Procedures). Washington, D.C.: Federal Highway Administration; September 5, 1968.
104. U.S. Department of Transportation, Federal Highway Administration. Instructional Memorandum 80-1-71 (Subject: Relocation Assistance and Payments - Interim Operating Procedures). Washington, D.C.: Federal Highway Administration; April 30, 1971.
105. U.S. Department of Transportation, Federal Highway Administration. Policy and Procedure Memorandum 20-8 (Subject: Public Hearings and Location Approval). Washington, D.C.: Federal Highway Administration; January 14, 1969.
106. U.S. Department of Transportation, Federal Highway Administration. Policy and Procedure Memorandum 21-16 (Subject: Highway Safety Improvement Projects). Washington, D.C.: Federal Highway Administration; March 7, 1969.
107. U.S. Department of Transportation, Federal Highway Administration. Policy and Procedure Memorandum 21-19 (Subject: Joint Development of Highway Corridors and Multiple Use of Roadway Properties). Washington, D.C.: Federal Highway Administration; January 17, 1969.
108. U.S. Department of Transportation, Federal Highway Administration. Policy and Procedure Memorandum 80-9 (Subject: Acquisition Procedures for the Control of Outdoor and Scenic Enhancement). Washington, D.C.: Federal Highway Administration; March 31, 1967.
109. U.S. Department of Transportation, Federal Highway Administration. Policy and Procedure Memorandum 90-1 (Subject: Guidelines for Implementing Section 102(2)(C) of the National Environmental Policy Act of 1969, Section 1653(f) of 49 U.S.C., Section 470f of 16 U.S.C., and Section 309 of the Clean Air Act of 1970). Washington, D.C.: Federal Highway Administration; August 24, 1971.
110. U.S. Department of Transportation, Federal Highway Administration. Policy and Procedure Memorandum 90-2 (Subject: Noise Standards and Procedures). Washington, D.C.: Federal Highway Administration; February 8, 1973.



111. U.S. Department of Transportation, Federal Highway Administration. Policy and Procedure Memorandum 90-4 (Subject: Process Guidelines (Economic, Social and Environmental Effects on Highway Projects)). Washington, D.C.: Federal Highway Administration; September 21, 1972.
112. U.S. Department of Transportation, Federal Highway Administration. Process Guidelines for Consideration of Environmental Effects. Washington, D.C.: Federal Highway Administration; January 10, 1972. (Rough draft for PPM 90-4)
113. Department of Transportation, Federal Highway Administration. Program Progress. Washington, D.C.: Federal Highway Administration, aperiodic.
114. U.S. Department of Transportation, Federal Highway Administration, National Highway Safety Bureau. Report on the Federal Highway Safety Program Standards. Washington, D.C.: National Highway Safety Bureau; July 1, 1967.
115. U.S. National Interregional Highway Committee. Interregional Highways. Washington, D.C.: U.S. Government Printing Office; January, 1944.
116. U.S. Statutes at Large. Washington, D.C.: U.S. Government Printing Office.
117. Whitton, Rex M. "The National Highway Program", Proceedings of the Annual Purdue Road School, 44th Session, 1958. Lafayette, Ind.: Department of Engineering Extension, Purdue University, 1958, p. 18.
118. Winfrey, Robley. Economic Analysis for Highways. Scranton, Penn.: International Textbook Company, 1969.
119. Wohl, Martin and Martin, Brian V. Traffic Systems Analysis for Engineers and Planners. New York, N.Y.: McGraw-Hill Book Company, 1967.



## Location Studies and Reports

1. An Analysis of the Highway Needs of Evansville.  
Evansville, Ind.: Evansville Chamber of Commerce;  
Evansville-Vanderburg Regional Plan Commission;  
Evansville's Future, Inc.; May 1, 1961.
2. Barton-Aschman Associates, Inc. "A Summary Report",  
A Transportation and Land Development Plan for the  
Indianapolis Region. Chicago: Barton-Aschman Associates  
Inc.; October, 1968.
3. Barton, George W. and Associates. Highway Transportation  
for the Indianapolis Metropolitan Area. Chicago:  
George W. Barton and Associates; August, 1957.
4. Brighton Engineering Company. Preliminary Engineering  
Report: Proposed North-South Toll Road Indiana.  
Frankfort, Kentucky: Brighton Engineering Company;  
November, 1966.
5. The Case for the More Southerly Relocation of Interstate  
Highway No. 64. Evansville, Ind. and Mount Vernon,  
Ill: Evansville Chamber of Commerce and Mount Vernon  
Chamber of Commerce; May 23, 1958.
6. Coverdale, William H. and Colpitts, Walter W. Report  
to Department of Transportation City of Indianapolis  
on Preliminary Studies of Financial Feasibility of  
Proposed Harding Street Expressway and Northeast  
Expressway. New York: Coverdale and Colpitts; April  
8, 1971.
7. Franklin City Plan Commission. Thoroughfare Plan for  
Franklin, Indiana. Franklin, Ind.: City Plan Commission  
1963.
8. Greiner, J. E., Company. Final Draft Form - Civil  
Engineering Report: Indiana Toll Road. Baltimore,  
Md.: J. E. Greiner Company; October 15, 1953.
9. Greiner, J. E., Company. Selection of Route for the  
Indiana Toll Road. Baltimore, Md.: J. E. Greiner  
Company; April 14, 1953.
10. Gruen, Victor, Associates. Indianapolis Central Area  
Freeway Access Study. Los Angeles, Calif.: Victor  
Gruen Associates; January, 1967.
11. Harrison County Plan Commission. A Report on Alternate  
Corridor for I-64 Through Harrison County. Corydon,  
Ind.: H.C.P.C.; September 29, 1964.





12. Huntington, Wade, and Associates. A Report for the Improvement of Southport Road, Emerson Avenue to Madison Avenue. Indianapolis: Huntington, Wade, and Associates; March 31, 1966.
13. Indiana & Kentucky State Highway Departments. IR 64, New Albany - Louisville and IR 65, Jeffersonville - Louisville. Indianapolis, Ind. & Frankfort, Ky.: ISHD, KSHD, 1958.
14. I.S.H.C., Division of Planning. Additional Interstate System Mileage Designations Authorized in the Federal-Aid Highway Act of 1968. Indianapolis: I.S.H.C.; October 24, 1968.
15. ISHC, Planning Division. Analytical Comparison of Three Routes for IR 69 Between Common Points 2.2 Miles North of SR 18 and 2.25 miles South of US 24. Indianapolis: ISHC, Planning Division; November 9, 1959.
16. ISHC, Planning Division. Analytical Comparison of Two Routes for IR 65 in Bartholomew and Johnson Counties. Indianapolis: ISHC, Planning Division; September 17 1959.
17. ISHC. Analysis of report on I-65-3(94)100 Preliminary Engineering from 0.5 miles north of Greenwood Road to Thompson Road as submitted by the Metropolitan Planning Department of Marion County, Indiana, (dated July 3, 1968). Indianapolis: ISHC, Office of Highway Division, Program Planning Department; October 15, 1968.
18. Indiana State Highway Department. Comparison of Tentative F.A.I. 01 Locations with F.A.I. 02 Located near the SW Corner of F.A.I. 01. Indianapolis: Indiana State Highway Department, Planning Division; June 16, 1958.
19. ISHC. Economic Study Report, FAI 04, IR 69 from Auburn to Indiana-Michigan State Line. Indianapolis: ISHC, Planning Division; September 23, 1958.
20. ISHC. Engineering Report on the I 65 Spur. Indianapolis, Ind.: ISHC, Division of Planning; July, 1968.
21. ISHC, Planning Division. F.A.I. 03 - IR 65, Alternate Line - Ohio River to Kopp Lane. Indianapolis: ISHC, Planning Division; December 19, 1958.



22. ISHC, Planning Division. F.A.I. 03 - (I65): Comparative Cost Estimate Revised West Alternate Route vs. Camp Atterbury Route. Indianapolis: ISHC, Planning Division; January 22, 1959.
23. ISHC, Planning Division. F.A.I. 03 (I65) Line Studies From Muscatatuck River North to F.A.I. 01 (I465) South Leg. Indianapolis: ISHC, Planning Division; February 28, 1958.
24. ISHC, Plan Division. F.A.I. 03 (I65) Revised Line Studies from 1.3 miles north of US 50 to F.A.I. 01 (I465) South Leg. Indianapolis: ISHC, Planning Division; April 28, 1958.
25. ISHC, F.A.I. 04/I69; Summary of Comparative Cost Studies, from 0.25 mile SW of SR 14 to Sec. A9, 0.7 mile SW of US 30, NW of Ft. Wayne. Indianapolis: ISHC Planning Division; June 23, 1958.
26. ISHC. F.A.I. 06 (IR64) in New Albany Economic Report for Bridge Location at New Albany. Indianapolis, Ind.: ISHC, Planning Division, 1958.
27. ISHC. F.A.I. 07 - IR94: Economic Study Report for the Chesterton By-Pass. Indianapolis, Ind.: ISHC, Planning Division; September 10, 1958.
28. ISHC. Planning Division. I.R. 65 (F.A.I. 03), Bartholomew County, Economic Study: Highway Separation on Horseshoe Bend Road 1 1/2 miles South of Taylorsville. Indianapolis: ISHC, Plan Division; 1960.
29. Indiana State Highway Commission. Interstate 65 and Interstate 70 In and Around City of Indianapolis. Indianapolis: ISHC; February 23, 1965.
30. ISHC. IR 74 (F.A.I. 05) Report of Original Line Versus Two Alternate Lines Layton to Lizton. Indianapolis, Ind.: ISHC, December 21, 1959.
31. ISHC. IR 74 (F.A.I. 05) Report of Revised Line 2 miles E of Chambersburg to Lizton. Indianapolis, Ind.: ISHC; December 21, 1959.
32. ISHC. IR 74 (F.A.I. 05) Sections 1 & 2 from Indiana-Illinois State Line to IR 465. Indianapolis, Ind.: ISHC; January 28, 1960.
33. ISHC, Planning Division. Location Review of IR 65 in the Vicinity of Lafayette. Indianapolis: ISHC, Planning Division; June 31, 1963.



34. ISHC, Planning Division. Preliminary Location Study for Interstate Route 65 from Lebanon to the Vicinity of Fair Oaks. Indianapolis: ISHC, Planning Division, July 19, 1961.
35. ISHC, Planning Division. Supplementary Report - Preliminary Location Study for Interstate Route 65 from Lebanon to a Point 0.5 miles South of SR #10. Indianapolis: ISHC, Planning Division; October 18, 1961.
36. ISHC, Planning Division. Supplementary Report - Preliminary Location Study for Interstate Route 65 from Lebanon to Point 0.5 miles south of SR #10. Indianapolis: ISHC Planning Division; May 10, 1962.
37. ISHC, Planning Division. Second Supplementary - Preliminary Location Study for Interstate Route 65 from Lebanon to a Point 0.5 miles South of SR 10. Indianapolis: ISHC, Planning Division; January 23, 1963.
38. ISHC, Preliminary Location Study for Interstate 265 in the New Albany - Jeffersonville Area. Indianapolis, Ind.: ISHC, Planning Division, August 24, 1961
39. ISHC, Preliminary Location Study for Interstate 265 in the New Albany - Jeffersonville Area. Indianapolis, Ind.: ISHC, Planning Division; November, 1962.
40. Indiana State Highway Commission. Preliminary Location Study East Leg of Interstate 465. Indianapolis: ISHC, Planning Division; September 28, 1961.
41. ISHC, Report of Location Study for F.A.I. 04 - Interstate Route No. 69 from Pendleton to Ft. Wayne. Indianapolis: ISHC, Planning Division; December 4, 1958.
42. ISHC, Planning Division. Review of Alternate Location For Interstate Route 69 in Steuben County, Indiana. Indianapolis: ISHC, July 6, 1962.
43. ISHC, Planning Division. Review of Preliminary Locations for Interstate Route 70: Illinois-Indiana State Line to State Route 59. Indianapolis: ISHC, Planning Division; May 28, 1962.
44. ISHC, Planning Division. Revised Economic Study Report on Road Separations at 82nd Street NW of Indianapolis, IR 65. Indianapolis: ISHC, Planning Division; September 12, 1958.



45. ISHC, Division of Planning. Route Comparison IR 64 (F.A.I. 06) New Albany to Indiana - Illinois State Line: An Economic Report on the Two Study Routes of Proposed IR 64. Indianapolis, Ind.: ISHC, 1958 or 1959.
46. ISHC, Planning Division. A Study of Need and Capacity Requirements of a proposed Bridge Across White River on 38th St. Northwest of Indianapolis. Indianapolis: ISHC, Planning Division; April 23, 1959.
47. ISHC, Summary of Comparative Cost Studies - East Leg of F.A.I. 01 (I465) from the Big Four R.R. (3600' N. of 21st St.) to 1300' S. of Raymond St. Indianapolis: ISHC, Planning Division; December, 1958.
48. Indiana Toll Road Commission. Indiana East-West Toll Road Annual Report of 1957. Indianapolis, Ind.: Indiana Toll Road Commission; February 1, 1958.
49. Jeffersonville. Request for a Southbound Ramp off Highway I-65 into the City of Jeffersonville, Indiana. Jeffersonville, Indiana: Mayor's Office of Indianapolis: ISHC, Planning Division; May, 1967.
50. Lochner, H. W., Inc. Alternate Location for Interstate 70 Through Stout Field. Chicago, Ill.: H. W. Lochner, Inc., July, 1961.
51. Lochner, H. W., Inc. Depressed Vs. Elevated: A Study of a Section of the East Leg of the Indianapolis Inner Belt. Chicago: H. W. Lochner, Inc.; November 16, 1964.
52. Lochner, H. W., Inc. Engineering Report for the Interstate Highway System in the Indianapolis Urban Area. Chicago: H. W. Lochner, Inc.; July, 1957.
53. Lochner, H. W., Inc. Interstate Route 69 Supplement Study: Economic Study of Alternate Plans for Routes 65 & 69 in Indianapolis. Chicago: H. W. Lochner, Inc.; May 8, 1962.
54. Lochner, H. W., Inc. A Location Plan for Interstate Routes 69 and 70 in Central Indiana. Chicago: H. W. Lochner, Inc., December, 1961.
55. Lochner, H. W., Inc. A Plan for the Location of the North Leg of Interstate Route 465 in the Indianapolis Metropolitan Area. Chicago: H. W. Lochner, Inc.; January, 1960.





56. Lochner, H. W., Inc. Recommended Location, Access Control Plan and Geometrics for Interstate Route 65 - South Route Indianapolis, Indiana. Chicago: H. W. Lochner, Inc.; May, 1963.
57. Lochner, H. W., Inc. Recommended Location, Access Control Plan and Geometrics for Interstate Route 70 - East Route Indianapolis, Indiana. Chicago: H. W. Lochner, Inc.; May, 1963.
58. Lochner, H. W., Inc. Recommended Location, Access Control Plan and Geometrics for the South Leg and East Leg of the Inner Belt Indianapolis, Indiana. Chicago: H. W. Lochner, Inc.; May, 1963.
59. Lochner, H. W., Inc. Report of Preliminary Engineering for The Indianapolis Inner Belt. Chicago: H. W. Lochner, Inc.; August, 1966.
60. Lochner, H. W., Inc. Report on the Proposed Location and Configuration of the Indianapolis Inner Belt. Chicago: H. W. Lochner, Inc.; July, 1963.
61. Lochner, H. W., Inc. Supplement to a Report on the Location Plan for the North Leg of Interstate Route 465 in the Indianapolis Metropolitan Area. Chicago: H. W. Lochner, Inc.; August, 1960.
62. Lochner, H. W., Inc. Supplement Northwest Route Engineering Report for the Interstate Highway System in the Indianapolis Urban Area. Chicago: H. W. Lochner, Inc.; 1959.
63. Lochner, H. W., Inc. Supplement West Route Engineering Report for the Interstate Highway System in the Indianapolis Urban Area. Chicago: H. W. Lochner, Inc.; 1959.
64. Lochner, H. W., Inc. Supplement for West Route in Engineering Report for the Interstate Highway System in the Indianapolis Urban Area. Chicago: H. W. Lochner, Inc.; August, 1959.
65. Lochner, H. W., Inc. Supplement (for South Route) to the Engineering Report for the Interstate Highway System in the Indianapolis Urban Area. Chicago: H. W. Lochner, Inc.; 1958.
66. Lochner, H. W., Inc. Volume II: Report of Preliminary Engineering for Project I-64-1(23) in Vanderburgh and Warrick Counties, Indiana. Chicago: H. W. Lochner, Inc.; November, 1964.



67. Metropolitan Planning Department of Marion County Indiana. "Central Business District Plan For Metropolitan Indianapolis", Comprehensive Plan of Marion County. Indianapolis, Ind.: Metropolitan Planning Department, 1963.
68. Metropolitan Planning Department of Marion County, Indiana. Indianapolis' Interstates: A Ten Year Review. Indianapolis: Metropolitan Planning Department of Marion County Indiana; 1967.
69. Metropolitan Planning Department of Marion County, Indiana. Review of I-65 between Greenwood Road and Thompson Road. Indianapolis: Metropolitan Planning Department of Marion County, Indiana; July 3, 1968.
70. Muncie Chamber of Commerce. Brief in Support of Location of Proposed Interstate Route 69. Muncie, Ind.: Muncie Chamber of Commerce, 1958.
71. Parsons, Brinckerhoff, Quade, and Douglas. The Interstate Highway Bypass for the Cincinnati Metropolitan Area: Preliminary Engineering Report on the Location in Indiana and Kentucky. New York: Parsons, Brinckerhoff, Quade, and Douglas; August, 1960.
72. Parsons, Brinckerhoff, Hall and MacDonald. The Proposed Ohio River Bridge at Lawrenceburg, Indiana: Traffic and Revenue. New York: Parsons, Brinckerhoff, Hall and MacDonald; May, 1959.
73. Photronix, Inc., Consulting Engineers. Preliminary Engineering Report: Federal Aid Interstate Route 06, New Harmony to New Albany. Columbus, Ohio: Photronix, Inc.; September, 1958.
74. Photronix, Inc., Preliminary Engineering Report: Federal Aid Interstate Route 65, Swanington to Gary. Columbus Ohio: Photronix, Inc.; 1958.
75. St. Louis - Vincennes - Louisville Interstate Highway Committee. Why We Need Interstate Highway 64 Where it was Originally Planned. Vincennes, Ind.: The St. Louis - Vincennes - Louisville Interstate Highway Committee, 1959.
76. Smith, Wilbur and Associates. Preliminary Feasibility Report: Proposed North-South Toll Road Indiana. New Haven, Conn.: Wilbur Smith and Associates; November, 1966.
77. Smith, Wilbur and Associates. Summary Report: Proposed North-South Toll Road Indiana. New Haven, Conn.: Wilbur Smith and Associates; November, 1966.



78. Vogt, Ivers and Associates. Cincinnati Metropolitan Area Circle Freeway - Belt Route Report. Cincinnati: Vogt, Ivers and Associates; March, 1962.
79. Ward, John A., Bi-State Co-ordinator. A Special Report on the State of The Continuance of the Development of Interstate Highway 64 Across Illinois and Indiana. Vincennes, Ind.: St. Louis - Vincennes - Louisville Interstate Highway Committee,
80. Williams, Clyde E. and Associates, Inc. Location Study Report: Pendleton to Landess, Indiana, on Interstate Route No. 69. Indianapolis: Clyde E. Williams and Associates; July, 1958.



## APPENDIX





TABLE 40. STATUS OF IMPROVEMENT OF INTERSTATE HIGHWAYS IN INDIANA

Route	Free Facilities							Toll Facilities			Total System		Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic
Tri-State Toll Rd.	2.35		2.35		4.05				156.85	0.00			
All	2.35	0.25	2.35	0.3	4.05	93.1	93.3		156.85	0.00	2.35	10.90	0.22 6/30/56
I-64						104.2	104.2						
I-65					0.27	274.1	274.4						
I-69						151.7	151.7						
I-70						151.6	151.6						
I-74						150.0	150.0						
Elk.-Kal.						2.2	2.2						
Tri-State Toll Rd.	6.40		6.40		0.00	39.2	45.6						
I-465						52.8	52.8		0	156.85			
All	6.40	0.69	6.40	0.69	0.27	925.8	932.5		0	156.85	163.25	1089.4	14.99 12/31/56
I-64						104.2	104.2						
I-65					0.27	274.1	274.4						
I-69						151.7	151.7						



TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System	Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	
I-70						151.6	151.6					
I-74						150.0	150.0					
Elk.-												
Kal.						2.2	2.2					
Tri-												
State	6.40		6.40		0.00	39.2	45.6					
Toll												
Rd.												
I-465						52.8	52.8		0	156.85		
All	6.40	0.69	6.40	0.69	0.27	925.8	932.5		0	156.85	1089.4	14.99 6/30/57
I-64						104.2	104.2					
I-65					0.27	274.1	274.4					
I-69						151.7	151.7					
I-70						151.6	151.6					
I-74						150.0	150.0					
Elk.-												
Kal.						2.2	2.2					
Tri-												
State	6.40		6.40		0.00	39.2	45.6					
Toll												
Rd.												
I-265								6.1	0	156.85		



TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System		Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic
I-465							52.8	52.8					
All	6.40	0.69	6.40	0.69	0.27	925.8	932.5	6.1	0	156.85	163.25	1095.5	14.90 12/31/57
I-64						104.2	104.2						
I-65					4.74	269.7	274.4						
I-69						151.7	151.7						
I-70						151.6	151.6						
I-74						150.0	150.0						
Elk.- Kal.						2.2	2.2						
Tri- State Toll Rd.	6.40		6.40		0.30	38.9	45.6						
I-265						6.1	6.1						
I-465						52.8	52.8		0	156.85			
All	6.40	0.68	6.40	0.68	5.04	927.2	938.6		0	156.85	163.25	1095.5	14.90 6/30/58



TABLE 40. (Cont.)

Route	Free Facilities				Toll Facilities				Total System	Date				
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic	
I-64						104.2	104.2							
I-65						233.7	274.4							
I-69					40.73	151.7	151.7							
I-70						151.6	151.6							
I-74					30.73	119.3	150.0							
Elk.-														
Kal.						2.2	2.2							
Tri-														
State	6.40		6.40		0.30	38.9	45.6							
Toll														
Rd.									0	156.85				
I-265						6.1	6.1							
I-465						52.8	52.8							
All	6.40	0.68	6.40	0.68	71.76	860.5	938.6		0	156.85	163.25	1095.5	14.90	12/31/58





TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System	Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	
I-64						104.2	104.2					
I-65						216.7	274.4					
I-69						151.7	151.7					
I-70						151.6	151.6					
I-74						119.3	150.0					
Tri-State Toll Rd.	6.40		6.40		3.84	35.4	45.6					
I-265						6.1	6.1		0	156.85		
I-465						52.8	52.8					
All	6.40	0.68	6.40	0.68	92.28	837.8	936.4		0	156.85	163.25	1093.3 14.93 6/30/59
I-64						125.3	125.3					
I-65	4.47				60.38	201.1	266.0					
I-69						158.6	158.6					
I-70					11.23	143.0	154.2					
I-74	2.43				40.71	110.2	153.3					
Tri-State Toll Rd.	6.70		6.40		3.54	35.4	45.6		0	156.85		855



TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System		Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic
I-265							6.1	6.1					
I-465							52.8						
All	13.60	1.41	6.40	0.67	122.26	826.1	961.9		0	156.85	163.25	1118.8	14.59 12/31/59
I-64					0.22	125.1	125.3						
I-65	4.47				63.13	198.4	266.0						
I-69						158.6	158.6						
I-70					11.23	143.0	154.2						
I-74	2.43				48.94	102.0	153.3						
Tri-State Toll Rd.	6.70		6.40		3.54	35.4	45.6						
I-265							6.1	6.1	0	156.85			
I-465							52.8						
All	13.60	1.41	6.40	0.67	133.46	815.0	961.9		0	156.85	163.25	1118.8	14.59 6/30/60
I-64					0.58	124.7	125.3						
I-65	63.14		13.39		19.27	183.6	266.0						
I-69					7.69	150.9	158.6						
I-70					11.23	143.0	154.2						
I-74	17.09		7.98		37.35	98.9	153.3						



Route	Free Facilities								Toll Facilities			Total System			Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic	
Tri-State Toll Rd.	10.24		9.89		2.77	32.6	45.6								
I-265						6.1	6.1		0	156.85					
I-465					8.71	44.1	52.8								
All	90.47	9.41	31.26	3.25	87.60	783.9	961.9		0	156.85	188.11	1118.8	16.81	12/31/60	
I-64					0.58	124.7	125.3								
I-65	63.14		13.39		22.19	180.7	226.0								
I-69					12.44	146.2	158.6								
I-70					11.23	143.0	154.2								
I-74	23.47		7.98		33.62	96.2	153.3								
Tri-State Toll Rd.	10.24		9.89		2.77	32.6	45.6								
I-265						6.1	6.1		0	156.85					
I-465					14.51	38.3	52.8								
All	96.85	10.07	31.26	3.25	97.34	767.8	961.9		0	156.85	188.11	1118.8	16.81	6/30/61	



TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System		Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic
I-64	0.58		0.42			124.7	125.3						
I-65	67.33		64.35		25.65	173.0	266.0						
I-69	4.07				16.54	138.0	158.6						
I-70	11.23		10.95		0.00	143.0	154.2						
I-74	46.44		56.70		21.67	85.2	153.3						
Tri-State Toll Rd.	13.01		9.89		0.00	32.6	45.6						
I-265									0	156.85			
I-465	6.40		8.20		8.11	38.3	52.8						
All	149.06	15.50	150.51	15.65	71.97	740.9	961.9		0	156.85	307.36	1118.8	27.47 12/31/61
I-64	0.58		0.42			124.7	125.3						
I-65	67.33		64.35		25.65	173.0	266.0						
I-69	4.07				20.00	134.5	158.6						
I-70	11.23		10.95		7.99	135.0	154.2						
I-74	46.44		56.70		52.88	54.0	153.3						
Tri-State Toll Rd.	13.01		9.89		0.00	32.6	45.6						
I-265									0	156.85			858





TABLE 40. (Cont.)

Route	Free Facilities							Toll Facilities				Total System	Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic
I-465	6.40		8.20		11.60	34.8	52.8						
All	149.06	15.50	150.51	15.65	118.12	694.7	961.9		0	156.85	307.36	1118.8	27.47
I-64	0.58		0.42			122.2	122.8						
I-65	92.71		90.59		2.67	167.4	262.8						
I-69	20.61		10.16		3.46	134.5	158.6						
I-70	11.23		10.95		7.99	135.0	154.2						
I-74	57.09		59.04		48.21	46.0	151.3						
Tri-State Toll Rd.	13.01		9.89		0.00	32.8	45.8						
I-265						6.6	6.6		0	156.85			
I-275								3.3					
I-465	14.51		11.46		8.87	29.8	53.2						
All	209.74	21.96	192.51	20.15	71.20	673.3	955.3	3.3	0	156.85	349.36	1115.5	31.32
I-64	0.58		0.42			122.2	122.8						
I-65	92.71		90.59		8.04	162.1	262.8						
I-69	24.07		10.16		42.29	92.2	158.6						
I-70	11.23		10.95		7.99	135.0	154.2						
I-74	57.09		59.04		48.21	46.0	151.3						



TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System	Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	
Tri-State Toll Rd.	13.01		9.89		2.37	30.4	45.8					
I-265						6.6	6.6		0	156.85		
I-275						3.3	3.3					
I-465	14.51		11.46		9.88	28.8	53.2					
All	213.20	22.24	192.51	20.08	118.78	626.5	958.6	0	156.85	349.36	1115.5	31.32 6/30/63
I-64	0.58		0.42			122.2	122.8					
I-65	92.71		90.59		8.04	162.1	262.8					
I-69	32.99		24.41		81.01	44.6	158.6					
I-70	19.22		18.91		0.00	135.0	154.2					
I-74	92.10		99.63		24.51	34.7	151.3					
Tri-State Toll Rd.	13.01		9.89		2.37	30.4	45.8					
I-265						6.6	6.6		0	156.85		
I-275						3.3	3.3					
I-465	20.95		20.56		4.54	27.7	53.2					
All	271.56	28.33	264.41	27.58	120.47	566.6	958.6	0	156.85	421.26	1115.5	37.76 12/31/63



TABLE 40. (Contin.)

Route	Free Facilities						Toll Facilities				Total System	Date	
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic
I-64	0.58		0.42			122.2	122.8						
I-65	92.71		90.59			157.1	262.8						
I-69	32.99		24.41		13.04	28.5	158.6						
I-70	19.22		18.91		97.10	129.8	154.2						
I-74	99.56		99.63		5.19	12.8	151.3						
Tri-					38.98								
State	13.01		9.89		2.37	30.4	45.8						
Toll Rd.													
I-265						6.6	6.6		0	156.85			
I-275						3.3	3.3						
I-465	23.38		20.56		2.11	27.7	53.2						
All	281.45	29.36	264.41	27.58	158.79	518.4	958.6		0	156.85	421.26	1115.5	37.76
I-64	0.58		0.42			123.4	124.0						
I-65	100.75		97.81		13.02	148.3	262.1						
I-69	91.28		77.71		38.31	27.7	157.8						
I-70	19.22		18.91		25.90	109.0	154.1						
I-74	111.25		105.07		33.88	6.2	151.3						
Tri-													
State	15.38		15.00		0.00	30.4	45.8						



TABLE 40. (Cont.)

Route	Free Facilities							Toll Facilities			Total System		Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Miles Under Construction	Miles Open to Traffic	Miles Designated	Miles Open to Traffic		
Toll Rd.													
I-265													
I-275													
I-465	24.39		25.52		1.10	27.6	53.1						
All	362.85	37.87	340.44	35.53	112.71	482.6	958.2	0	156.85	497.29	1115.1	44.60	12/31/64
I-64	0.58		0.42		3.16	120.3	124.0						
I-65	100.75		97.81		16.03	145.3	262.1						
I-69	97.35		91.37		32.74	27.7	157.8						
I-70	19.22		18.91		33.06	101.8	154.1						
I-74	111.25		105.07		33.88	6.2	151.3						
Tri-State	15.38		15.00		0.00	30.4	45.8						
Toll Rd.													
I-265													
I-275													
I-465	24.39		25.52		1.10	27.6	53.1						
All	368.92	38.50	354.10	36.95	119.97	469.3	958.2	0	156.85	510.95	1115.1	45.82	6/30/65





TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System		Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic
I-64	0.58		0.42		5.31	118.1	124.0						
I-65	100.75		97.81		21.43	139.9	262.1						
I-69	124.66		113.63		9.82	23.3	157.8						
I-70	19.22		18.91		57.15	77.7	154.1						
I-74	139.49		123.34		11.76	00.0	151.25						
Tri-State Toll Rd.	15.38		15.00		00.00	30.4	45.8						
I-265						6.7	6.7		0	156.85			
I-275						3.3	3.3						
I-465	25.49		25.52		2.56	25.1	53.1						
	425.57	44.41	394.63	41.18	108.03	424.5	958.2		0	156.85	551.48	1115.1	49.46
I-64	0.58		0.42		13.86	109.6	124.0						
I-65	107.49		97.81		14.69	139.9	262.1						
I-69	124.66		129.27		14.96	18.2	157.8						
I-70	19.22		18.91		91.10	43.8	154.1						
I-74	139.49		137.75		11.76	00.0	151.25						
Tri-State	15.38		15.00		00.00	30.4	45.8						



TABLE 40. (Cont.)

Route	Free Facilities								Toll Facilities			Total System	Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic
Toll Rd.													
I-265						6.7	6.7		0	156.85			
I-275						3.3	3.3						
I-465	25.49	25.52	25.52	8.93	18.7	53.1							
	432.31	45.12	424.68	44.32	155.30	370.6	958.2		0	156.85	581.53	1115.1	52.15 6/30/66
I-64	5.89		0.42	13.10	105.0	124.0							
I-65	116.78		97.81	40.19	105.1	262.1							
I-69	130.09		129.27	20.68	7.0	157.8							
I-70	40.60		18.91	78.25	35.3	154.1							
I-74	145.13		137.75	6.12	00.0	151.25							
Tri-State Toll Rd.	15.38		15.00	0.00	30.4	45.8							
I-265						6.7	6.7		0	156.85			
I-275						3.3	3.3						
I-465	25.49	25.52	25.52	8.93	18.7	53.1							
	479.36	50.03	424.68	44.32	167.27	311.5	958.2		0	156.85	581.53	1115.1	52.1512/31/66



TABLE 40. (C nt.)

Route	Free Facilities							Toll Facilities			Total System		Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic
I-64	5.89		0.42		21.18	96.93	124.00						
I-65	116.78		97.81		40.19	105.10	262.07						
I-69	134.48		129.27		16.29	7.04	157.81						
I-70	40.60		18.91		95.98	17.52	154.10						
I-74	145.13		137.75		6.12	00.00	151.25						
Tri-													
State	15.38		15.00		0.00	30.33	45.71						
Toll Rd.													
I-265						6.74	6.74		0	156.85			
I-275						3.29	3.29						
I-465	25.49		25.52		17.29	10.33	53.11						
	483.75	50.49	424.68	44.32	197.05	277.28	958.08		0	156.85	581.58	1114.93	52.16
I-64	5.89		0.42		25.59	92.52	124.00						
I-65	122.18		99.97		34.79	105.10	262.07						
I-69	136.05		139.08		14.72	7.04	157.81						
I-70	90.64		63.75		54.02	9.44	154.10						
I-74	151.25	100.00	151.25	100.00	00.00	00.00	151.25						
Tri-													
State	15.38		15.00		3.61	26.72	45.71						
Toll Rd.													
									0	156.85			



TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System	Date	
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic
I-265						6.74	6.74						
I-275						3.29	3.29						
I-465	27.81		25.52		20.88	4.42	53.11						
	549.20	57.32	494.99	51.66	153.61	255.27	958.08		0	156.85	651.84	1114.93	58.46
I-64	9.65		0.42		21.83	92.52	124.00						
I-65	122.18		108.93		62.10	77.79	262.07						
I-69	136.05		139.08		14.72	7.04	157.81						
I-70	90.64		63.75		54.02	9.44	154.10						
I-74	151.25	100.00	151.25	100.00	00.00	0.00	151.25						
Tri-State Toll Rd.	15.38		15.00		3.61	26.72	45.71						
									0	156.85			
I-265						6.74	6.74						
I-275						3.29	3.29						
I-465	30.37		31.71		23.03	4.41	53.11	4.76(a)					
	555.52	57.98	510.14	53.25	179.31	227.95	958.08	4.70	0	156.85	666.99	1114.93	59.82
													6/30/68

(a) Not officially Added Until November of 1969. Excluded from percentages.





TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System		Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic
I-64	18.59		13.36		12.89	92.52	124.00						
I-65	150.46		152.29		59.25	52.36	262.07						
I-69	144.99		139.08		5.78	7.04	157.81						
I-70	124.48		110.34		20.18	9.44	154.10						
I-74	151.25	100.00	151.25	100.00	00.00	00.00	151.25						
Tri-State Toll Rd.	15.38		15.00		3.61	26.72	45.71						
I-164								14.30		156.85			
I-265						6.74	6.74						
I-275						3.29	3.29						
I-465	39.28		37.87		18.53	00.00	53.11	4.76 <sup>(a)</sup>					
	644.43	67.26	619.19	64.63	120.24	198.11	958.08	19.00		156.85	776.04	1129.23	68.72
													12/31/68

(a) Not Officially Added Until November of 1969. Excluded from percentages.



TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System		Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	
I-64	18.59		13.36		12.89	92.52	124.00						
I-65	158.65		152.29		72.11	31.31	262.07						
I-69	144.99		139.08		5.78	7.04	157.81						
I-70	124.87		110.34		19.79	9.44	154.10						
I-74	151.25	100.00	151.25	100.00	00.00	00.00	151.25						
Tri-State Toll Rd.	15.38		15.00		11.53	18.80	45.71						
I-164						14.30	14.30		0	156.85			
I-265						6.74	6.74						
I-275						3.29	3.29						
I-465	39.28		37.87		18.53	0.00	53.11	4.76 <sup>(a)</sup>					
	653.01	67.16	619.19	63.68	140.62	183.44	972.38	4.70	0	156.85	776.04	1129.23	6/30/69

(a) Not Officially Added Until November of 1969. Excluded from percentages.



TABLE 40. (Cont.)

Route	Free Facilities					Toll Facilities				Total System		Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	
I-64	31.48		31.06		0.00	92.52	124.00					
I-65	158.65		163.05		81.97	21.45	262.07					
I-69	150.77		147.64		7.04	00.00	157.81					
I-70	138.10		143.99		8.17	7.83	154.10					
I-74	151.25	100.00	151.25	100.00	00.00	00.00	151.25					
Tri-State Toll Rd.	18.99		18.81		18.58	8.14	45.71					
I-164						14.30	14.30		0	156.85		
I-265						6.74	6.74					
I-275						3.29	3.29					
I-465	47.49		45.36		10.32	0.00	53.11	4.70				
	696.73	71.65	701.12	72.10	126.08	154.27	972.38	4.70	0	156.85	857.97	1133.93
												75.66
												12/31/69
I-64	31.48		31.06		12.97	79.55	124.00					
I-65	158.65		163.05		92.79	10.63	262.07					
I-69	150.77		147.64		7.04	00.00	157.81					
I-70	138.10		143.99		8.17	7.83	154.10					
I-74	151.25	100.00	151.25	100.00	00.00	00.00	151.25					
Tri-State	18.99		18.81		18.58	8.14	45.71					

869



TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System	Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	
Toll Rd.									0	156.85		
I-164						14.30	14.30					
I-265						6.74	6.74					
I-275						3.29	3.29					
I-465	47.49		45.36		10.32	0.00	57.81					
	696.73	71.31	701.12	71.76	149.87	130.48	977.08		0	156.85	857.91	1133.93 75.66 6/30/70
I-64	31.48		31.06		31.08	61.44	124.00					
I-65	193.91		195.10		63.22	4.94	262.07					
I-69	150.77		152.31		7.04	00.00	157.81					
I-70	144.66		143.99		2.66	6.78	154.10					
I-74	151.25	100.00	151.25	100.00	00.00	00.00	151.25					
Tri-State	18.99		18.81		22.19	4.53	45.71					
Toll Rd.									0	156.85		
I-164						14.30	14.30					
I-265						6.74	6.74					
I-275					0.31	2.98	3.29					
I-465	57.81	100.00	57.81	100.00	0.00	00.00	57.81					
	748.87	76.64	750.29	76.79	126.50	101.71	977.08		0	156.85	907.14	1133.93 80.00 12/31/70





TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System	Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	
I-64	31.48		31.06		39.70	52.82	124.00					
I-65	208.93		197.92		48.20	4.94	262.07					
I-69	150.77		152.31		7.04	00.00	157.81					
I-70	144.66		143.99		3.47	5.97	154.10					
I-74	151.25	100.00	151.25	100.00	00.00	00.00	151.25					
Tri-State Toll Rd.	18.99		18.81		26.72	00.00	45.71					
I-164						14.30	14.30		0	156.85		
I-265						6.74	6.74					
I-275					0.31	2.98	3.29					
I-465	57.81	100.00	57.81	100.00	0.00	00.00	57.81					
	763.89	78.18	753.11	77.08	125.44	87.75	977.08		0	156.85	909.96	1133.93 80.25 6/30/71
I-64	35.84		35.66		63.07	25.09	124.00					
I-65	246.57		231.60		10.56	4.94	262.07					
I-69	157.81	100.00	157.81	100.00	00.00	00.00	157.81					
I-70	146.27		143.99		3.91	3.92	154.10					
I-74	151.25	100.00	151.25	100.00	00.00	00.00	151.25					
Tri-State	37.57		28.16		8.14	00.00	45.71					



TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System		Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic
Toll Rd.									0	156.85			
I-164	833.12	85.27	806.24	82.52	85.99	57.97	977.08		0	156.85	963.09	1133.93	84.93 12/31/71
I-265	35.84		35.66		69.84	18.32	124.00						
I-275	246.57		255.85		10.56	4.94	262.07						
I-465	157.81	100.00	157.81	100.00	00.00	00.00	157.81						
	146.27		143.99		3.91	3.92	154.10						
I-74	151.25	100.00	151.25	100.00	00.00	00.00	151.25						
Tri-State Toll Rd.	37.57		28.16		8.14	00.00	45.71						
I-164						14.30	14.30		0	156.85			
I-265					3.79	2.95	6.74						
I-275					0.31	2.98	3.29						
I-465	57.81	100.00	57.81	100.00	0.00	00.00	57.81						
	833.12	85.27	830.49	85.00	96.55	47.41	977.08		0	156.85	987.34	1133.93	87.07 6/30/72



TABLE 40. (Cont.)

Route	Free Facilities						Toll Facilities				Total System		Date
	Miles Completed	Percent Completed	Miles Open to Traffic	Percent Open to Traffic	Miles Under Construction	Miles Yet To Be Placed Under Construction	Total Free Mileage	Added Mileage	Miles Under Construction	Miles Open to Traffic	Miles Open to Traffic	Miles Designated	Percent Open to Traffic
I-64	44.45		35.66		61.23	18.32	124.00						
I-65	257.13		255.85		00.00	4.94	262.07						
I-69	157.81	100.00	157.81	100.00	00.00	00.00	157.81 <sup>a</sup>						
I-70	147.32		143.99		2.86	3.92 <sup>a</sup>	154.10						
I-74	151.25	100.00	151.25	100.00	00.00	00.00	151.25						
Tri-State Toll Rd.	37.57		45.71	100.00	8.14	00.00	45.71			156.85			
I-164					6.74	14.30	14.30						
I-265					2.06	0.00	6.74						
I-275					0.00	1.23	3.29						
I-465	57.81	100.00	57.81	100.00	0.00	00.00	57.81						
	853.34	87.36	848.04	86.79	81.03	42.71	977.08			156.85	1004.89	1133.93	88.62
													12/31/72

<sup>a</sup>Excludes 2.22 miles of East Leg of the Indianapolis Innter Belt included under I-65.



TABLE 41. MILEAGE OPEN TO TRAFFIC

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-80-94				
FA-UL-265(0,3)	I11.-Ind. State			
UI-265(6)	Line to Indiana-			
UI-UGI-265(7,8)	polis Boulevard	1952	2.35	
I-80-94				
UI-UGI-265(8)	Indianapolis Boulevard			
UI-265(17,18,15,19)	to Burr Street	8/56	4.05	
	As of 8/56		6.40	6.40
I-65-3(1)126				
-5(11)129	Temporary connection			
-5(8)132	to Old US 52 near			
-5(4)137	Royalton to US 52			
-5(1)139	NW of Lebanon	12/60	13.39	
I-74-1(5)0				
-1(11)5	I11.-Ind. State			
-1(14)7	Line to Covington-	12/60	7.98	
	Strington Road			
UI-265(19)	Burr St. to			
I-80-1(31)6	Broadway (SR 53)	11/60	3.49	
-1(32)8				
	As of 6/30/61		24.86	31.26
I-64-3(8)125				
	Kentucky-Ind. State			
	Line to Spring Street	12/22/61	0.26	





TABLE 41. (Continued)

Construction Project #	Description	Date Opened to Traffic	Mileage Open to Traffic (Miles)	Cumulative Mileage (Miles)
I-65-1(1)2	US 31E to US 50			
-1(5)5	[I-65 open to			
-1(11)12	Kentucky via US 31E.			
-1(19)19	US 31E to be up-			
-1(34)23	graded to Inter-	11/61	45.71	
-1(40)29	states in 11/64]			
-2(19)35				
-2(5)40				
-2(8)46				
I-65-3(12)123	I-465 to 71st	9/26/61	1.48	
-3(4)123	Street			
I-65-3(4)123	71st Street to			
-3(1)126	temporary connection			
	of Old US 52 near			
	Royalton	9/17/61	3.77	
I-70-5(17)148	Ohio-Ind. State			
-5(6)141	Line to Centerville	9/17/61	10.95	
	Road			
I-74-1(14)7	Covington-Stringtown			
-1(17)11	Road to temporary	9/61	3.42	
	US 136 interchange			
I-74-2(7)56	SR 39 to I-465	9/17/61	15.71	
-2(15)64				
-2(22)69				



TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-74-3(1)94	I-465 to St.			
-3(39)94	Paul Road	9/1/61	29.50	
-3(18)106				
-3(26)112				
-3(46)120				
I-465-4(21)145	I-65-SR 100 to I-74	9/26/61	4.06	
I-465-4(21)145				
-4(16)149	I-74 to 10th Street	12/21/61	1.94	
I-465-4(16)149	10th Street to			
-4(13)151	US 40	12/20/61	2.20	
-4(12)153				
I-65-2(8)46	As of 6/30/62		119.00	150.26
-2(26)51	US 50 to US 31			
-2(36)57	near Taylorsville	10/29/62	26.24	
-2(39)61				
-2(45)65				
-2(51)68				
-2(56)74				
I-69-4(20)102	US 24-SR 37 to			
-4(13)105	Old US 27 (now			
-4(3)109	SR 327)	10/23/62	10.16	



TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-74-4(37)169	US 52 to Ohio- Indiana State Line	11/62	2.34	
I-465-4(12)153 -4(60)153 -4(31)156	US 40 to SR 67 southwest of Indianapolis	7/18/62	3.26	
	As of 6/30/63		42.00	192.26
I-69-4(3)109 -4(6)112 -4(11)117 -5(19)122 -5(22)125	Old US 27 (now SR 327) to St. Johns- Auburn Road	10/31/63	14.25	
I-70-5(6)142 -5(40)140 -5(38)136	Centerville Road to Relocated SR 1	8/30/63	7.96	
I-74-3(46)120 -3(42)125 -4(6)131 -4(21)133 -4(21)141	St. Paul Road to Rossburg Road (New Point)	8/17/63	20.00	
I-74-4(21)141 (24)145	Rossburg Road (New Point) to SR 229	10/29/63	6.10	



TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-74-4(24)145	SR 229 to SR 1	12/4/63	14.49	
-4(28)149				
-4(30)153				
-4(42)157				
-4(47)163				
-4(50)167				
-4(58)163				
I-465-4(59,131)156	SR 67 to SR 37			
-4(74)159	(new Harding Street)	10/18/63	3.20	
I-465-4(74)159	SR 37 to US 31			
-4(72)162	(South Leg I-465)	12/13/63	3.10	
I-465-4(61)109	Emerson Avenue to			
-4(96)116	I-74	8/22/63	2.80	
	As of 6/30/64		71.90	264.16
I-65-1(48)0	From Kentucky-			
-1(49)1	Indiana State Line			
-1(1)2	to US 31E-SR 131	11/64	3.78	
I-65-3(12)123	I-465 to Lafayette			
-3(28)120	Road (Old US 52)	7/64	2.02	
I-65-3(31)107	I-465 to Keystone			
	Avenue	10/15/64	1.18	





TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-69-3(7)59	SR 18 to SR 38	12/15/64	45.41	
-3(42)57				
-2(47)53				
-2(28)49				
-2(23)44				
-2(43)41				
-2(37)37				
-2(33)33				
-2(16)30				
-2(8)26				
-1(19)25				
-1(13)21				
-1(8)18				
I-69-5(22)125	St. Johns-Auburn			
-5(32)129	Road to US 6	9/18/64	7.89	
I-69-5(32)129	US 6 to US 20	6/30/65	13.66	
-5(40)135				
-5(45)141				
-5(49)145				
I-74-4(58)163	SR 1 to US 52	10/30/64	5.44	
-4(37)169				
I-80-1(32)8	Broadway (SR 53)			
-1(1)10	to SR 51 with ramps			
-1(43)11	to Ind. Toll Road	11/64	5.11	
-1(7)12				



TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-465-4(72)162	US 31 to Emerson			
-4(62)164	Avenue			
-4(61)109	(South Leg I-465)	10/15/64	3.69	
I-465-4(96)112	I-74 to SR 100	10/15/64	1.27	
-4(122)113				
	As of 6/30/65		89.45	353.61
I-69-3(7)59	SR 18 to US 224	11/2/65	22.26	
-3(13)63				
-3(15)68				
-3(18)73				
-3(19)79				
-4(31)87				
I-69-4(31)87	US 224 to US 24-			
-4(33)90	SR 37	6/27/66	15.64	
-4(28)96				
-4(20)102				
I-74-1(43)21	SR 25 to SR 32	5/27/66	14.41	
-1(36)27				
-1(38)33				
-2(49)36				



TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-74-2(49)36 -2(41)43 -2(28)44 -2(7)56	SR 32 to SR 39	11/1/65	18.27	
	As of 6/30/66		70.58	424.19
I-65-8(12,20)266 -8(66)263 -8(65)260 -8(29)256	Ind. Toll Road to US 30	6/28/68	8.96	
I-65-3(28)120 -3(46)117	Lafayette Road (Old US 52) to 38th Street (near Guion Rd.)	12/17/67	2.16	
I-69-5(49)145 -5(55)148 -5(72)153 -5(94)155 -5(76)156	US 20 to Ind.-Mich. State Line	10/9/67	9.81	
I-70-1(4)0 -1(11)5 -1(17)7	Illinois-Indiana State Line to SR 46	8/31/67	11.18	



TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-70-4(13)101	SR 9 to SR 3	12/15/67	19.35	
-4(5)107				
-4(4)114				
-4(33)48				
-5(47)122				
I-70-5(47)122	SR 3 to SR 1	7/10/67	14.31	
-5(49)129				
-5(38)136				
I-74-1(17)11	Temporary US 136			
-1(34)11,12	Interchange to			
-1(64)14	SR 25	8/31/67	13.50	
-1(30)15				
-1(43)21				
I-465-4(122)113	SR 100 to US 40	1/10/68	2.00	
I-465-4(122)113	US 40 to SR 67-			
-4(123)116	US 36	1/9/68	4.19	
-4(37)116				
-4(30)119				
As of 6/30/68			85.46	509.65





TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-64-1(16)17 -1(24)21	SR 65 to US 41	8/10/68	7.34	
I-64-3(8)125 -3(10,11)124 -3(23)121 -3(16)120 -3(21)119 -3(36,37)110	Spring Street to SR 64	7/1/68	5.60	
I-65-8(29)256 -8(17)250 -8(15)247 -8(73)245 -8(68)239 -8(31)234 -7(13)227 -7(6)217 (1,2,3)	US 30 to SR 16	10/31/68	43.36	
I-70-2(7)43 -2(23)45 -2(18)49 -2(30)54 -2(35)59 -2(24)65 -3(34)68 -3(4)72	SR 43 to I-465	8/30/68	31.68	



TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-70-4(13)101	Shadeland Avenue (SR 100) to SR 9	12/2/68	14.91	
I-70-3(68)85				
I-465-4(37)116				
I-70-3(47)86				
I-70-3(50)92				
I-465-4(30)119	SR 67-US 36 to 56th Street-SR 100	10/23/68	2.28	
I-465-4(94)130	US 421 to US 31 (North Leg of I-465)	10/20/68	3.88	
	As of 6/30/69		109.05	618.70
I-64-1(31)0	Illinois-Indiana State Line to SR 65	10/1/69	17.70	
-1(33)4				
-1(35)7				
-1(8)13				
-1(16)17				
I-65-3(46)117	38th Street (near Guion Rd.) to North- western Avenue (US 421)	12/10/69	2.75	
-3(64)116				
I-65-7(6)217 (1)	SR 16 to SR 53- US 231	10/30/69	4.42	
-7(23)210				
I-65-7(23)210	SR 53-US 231 to US 24	11/25/69	3.59	
-7(22)206				



TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-69-1(8)18 -1(37)12 -1(31)6	SR 38 to SR 238	8/25/69	8.56	
I-70-1(17)7 -1(33)12 -1(35)17 -1(8)24 -1(24)30 -2(16)37 -2(20)40 -2(7)43	SR 46 to SR 43	10/21/69	30.00	
I-70-3(4)72 -3(37)73	I-465 West Leg to Holt Road	12/10/69	3.65	
I-80-1(7)12 -1(11)15 I-94-1(6)21	SR 51 to Crisman Road (SR 249)	8/15/69	3.81	
F-619(22,25)	I-65-SR 100 to North Leg of I-465	11/69	4.96	
I-465-4(94)130 -4(129)127	US 31 to relocated SR 431	10/20/69	2.53	
As of 6/30/70			81.97	700.67



TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-65-3(95)100 -3(31)107	I-465 South Leg to Southport Rd.	Spring 71	2.82	
I-65-3(64)116 -3(61)115	Northwestern Avenue (US 421) to 21st St.	12/4/70	1.50	
I-65-7(22)206 -7(19)200 -6(7)192 -6(18)184 -6(16)178 -6(3)178 -6(13)172	US 24 to SR 25	12/18/70	26.20	
I-65-2(57)64 -2(70)75	US 31 (near Taylors- ville) to SR 252	8/70	4.35	
I-69-1(31)6 -1(34)0	SR 238 to SR 37	10/5/70	4.67	
I-465-4(30)119 -4(146)122 -4(129)127	56th St.-SR 100 to relocated SR 431	10/5/70	5.96	
I-465-4(94)130 -4(124)135	US 421 to I-65 (North Leg of I-465)	8/18/70	5.97	
As of 6/30/71			51.47	752.14





TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-64-1(24)21 (43)26	US 41 to SR 57	9/3/71	4.60	
I-65-6(13)172 -6(10)168	SR 25 to SR 26	7/1/71	3.02	
I-65-6(10)168 -6(21)162 -5(26)156 -5(30)149	SR 26 to SR 28	9/10/71	14.20	
I-65-5(30)149 -5(36)145 -5(35)140 -5(1)139	SR 28 to US 52 Northwest of Lebanon	12/15/71	16.46	
I-65-3(61)115 -3(51)114 -3(118)114 (1,2)	21st Street to Illinois Avenue	1/21/72	1.16	
I-65-2(70)75 -3(91)80 -3(93)85 -3(74)89 -3(86)95 -3(95)100	SR 252 to South- port Road	6/30/72	23.09	
I-69-1(34)0	SR 37 to I-465 North Leg	11/16/71	5.50	



TABLE 41. (Continued)

Construction Project #	Description	Date Opened to Traffic	Mileage Open to Traffic (Miles)	Cumulative Mileage (Miles)
I-94-1(6)21 -2(9)24	SR 249 to US 20	11/29/71	3.46	
I-94-2(37)45 -2(40)45	US 20-35 to Ind.- Mich. State Line	11/29/71	5.89	
	As of 6/30/72		77.38	829.52
I-64-1(43)26	SR 57 to 0.5 mi. east of SR 57	Constructed	0.29	
I-64-1(44,45)30 -1(46)35 & (47)37 -2(11)40 -2(13)149 -2(19)157	0.5 mi. east of SR 57 to 0.5 mi. east of relocated SR 162	Under Construction	36.21	
I-64-2(23)66 -2(21)73	0.5 mi. east of re- located SR 162 to 1.6 mi. west of SR 37	PE & ROW Complete	18.32	
I-64-3(38,39)86 -3(40,50)93 -3(34,35)103 -3(36,37)110	1.6 mi. west of SR 37 to east of SR 64	Under Construction	33.99	
I-65-3(31)107	Keystone Avenue to 0.5 mi. northwest of Keystone Avenue	Constructed	0.50	



TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-65-3(33)109	0.5 mi. northwest of Keystone Avenue to east side of College Avenue	PE & ROW Complete	4.94	
-3(101)110				
-3(141)111				
-3(111)112				
-3(103)113				
I-65-3(118)114 (1)	Eastside of College Avenue to Illinois Avenue	Constructed	0.78	
I-70-3(37)73	Hold Road to Belmont Avenue	Constructed 7/28/72	1.56	
-3(59)76				
-3(57)75				
I-70-3(100)76	Belmont to River Ave.	PE & ROW Complete	0.88	
I-70-3(65)77	River Avenue to Madison Avenue	Under Construction	1.60	
-3(75)77				
-3(71,72)77				
I-65-3(141)111	Madison Avenue to 0.5 mi. east of Sherman Drive	PE & ROW Complete	5.26	
-3(111)112				
-3(103)113				
I-70-3(76)80				
I-70-3(97)82	0.5 mi. east of Sherman Drive to west end of Shadeland Ave. (SR 100) inter- change	Under Construction	2.87	
I-70-3(79)84				



TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
I-70-3(68)85	West end of Shadeland Avenue	Completed 6/20/69	0.16	
I-94-2(9)24 -2(13)28 -2(21)31 -2(25)36 -2(29)40 -2(37)45	US 20 to US 20-35	11/2/72	17.55	
I-164-	I-64 to SR 66	PE	14.30	
I-265-1(2)0 -1(3)3	I-64 to I-65	Under Construction	6.91	
I-275-9(19, 21)0 -2(4)0	Kentucky-Indiana State Line to US 50	Under Construction	1.96	
I-275-2(7)0	US 50 to Indiana- Ohio State Line	PE & ROW Complete	1.24	
	As of 12/31/72		149.32	978.84
Indiana Toll Road	Ohio State Line to South Bend interchange	8/16/56	79.7	
	South Bend interchange to LaPorte Interchange	9/5/56	27.9	
	LaPorte interchange to Gary East interchange	9/16/56	28.0	





TABLE 41. (Continued)

<u>Construction Project #</u>	<u>Description</u>	<u>Date Opened to Traffic</u>	<u>Mileage Open to Traffic (Miles)</u>	<u>Cumulative Mileage (Miles)</u>
Indiana Toll Road (continued)	Gary East interchange to Illinois State Line	11/15/56	21.3	
As of 12/31/72			156.85	1135.65



TABLE 42. SUMMARY OF INTERSTATE ROUTE MILEAGE (In Miles)

<u>Route</u>	<u>Length in Table 41</u>	<u>Length in Interstate Cost Est.</u>	<u>Adjust- ment to Table 41</u>	<u>Explanation</u>
I-64	123.84	124.0	+0.16	Distance to Center Line of Ohio River Bridge beyond State Line
I-65	261.83	262.1	+0.24	Distance to Center Line of Ohio River Bridge beyond State Line
I-69	157.81	157.8	---	
I-70	156.35	154.1	-2.25	Portion of East Leg of Indianapolis Inner Belt in common with I-65
I-74	151.16	151.3	+0.09	Length of ramps to I-465
Tri-State	45.67	45.7	+ .04	Round off
Ind. Toll Rd.	156.85	157.0	---	
I-164	14.30	14.3	---	
I-265	6.74	6.7	---	
I-275	3.20	3.3	+0.09	Distance to Center Line of Ohio River Bridge beyond State Line
I-465	<u>57.29</u>	<u>57.8</u>	<u>+0.52</u>	Length of ramps to I-65
	1135.04	1134.1	-1.11	
Adjustment	<u>-1.11</u>			
	1133.93			





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